

# HR-388

## Total Cost of Transportation analysis

### Chapter 7

### Analysis of Iowa county road issues with TCT

### Report supplement booklet

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Table 7-1 : Physical model of Iowa county road transportation system

Miles in each LOS / T-band classification.																				
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
14	Paved - 4 lane - divided													0.03	0.11		0.18	0.18	0	0
13	Paved - 4 lane												0.03	0.34	0.40			0.16		0.06
12	Paved - 3 lane			0.25		0.10	0.01	0.08	0.17		0.98	2.03	1.60	8.88	0.88	0.96	1.14	1.08	1.34	1.00
11	Paved - 2 lane - Level 3	1.60	13.51	12.13	17.46	28.69	41.69	187.86	384.82	823.28	1119.83	1187.93	836.42	479.52	165.65	80.63	20.87	7.94	1.04	0.23
10	Paved - 2 lane - Level 2	1.26	12.15	8.98	23.21	64.36	82.14	318.42	692.25	1303.66	1825.27	1976.15	1710.91	1007.12	430.83	179.10	60.85	30.55	10.99	0.50
9	Paved - 2 lane - Level 1		4.06	2.16	7.15	11.87	13.01	28.65	58.03	120.40	67.18	71.01	29.57	34.58	11.92	9.63	0.43			
8	Hard Surface - Level 2		0.39	1.70	5.04	8.39	14.26	34.46	52.22	43.34	30.48	24.21	9.70	4.15	5.30	1.00	0.22			
7	Hard Surface - Level 1	1.42	10.23	13.06	18.73	37.93	58.86	157.85	217.74	196.01	136.90	91.58	46.83	21.45	11.77	1.98	0.14			
6	Gravel - Level 3	1.63	89.97	266.49	716.97	960.94	858.86	841.37	446.52	183.78	58.90	21.81	3.29	0.56	1.22	0.71				
5	Gravel - Level 2	116.60	1766.18	4692.21	8050.77	7736.11	4475.13	3478.28	1319.39	452.61	103.70	37.56	15.22	3.23	1.02	1.47	0.32			
4	Gravel - Level 1	486.95	3517.85	6033.35	8148.58	6374.68	3071.29	2156.57	722.83	226.66	64.41	33.68	7.60	6.12	0.23	1.94	1.02			
3	Earth 2 lane	1154.74	1675.75	810.48	368.50	123.43	38.22	40.55	20.85	5.34	4.57									
2	Earth 1 lane	92.80	156.72	39.70	17.24	6.28	0.93	2.91	0.13		0.07									
1	Unimproved	626.34	97.66	21.68	11.88	4.83	0.95	0.51		0.25	0.95									
Total mi. in T-band:		2483	7344	11902	17386	15358	8655	7248	3915	3355	3413	3446	2661	1566	629	277	85	40	13	2
		2.77%	8.18%	13.26%	19.36%	17.11%	9.64%	8.07%	4.36%	3.74%	3.80%	3.84%	2.96%	1.74%	0.70%	0.31%	0.09%	0.04%	0.01%	0.00%
VMT /Year		3.63	27.61	80.80	187.20	244.96	206.93	246.81	201.34	264.78	403.40	603.48	689.35	604.68	356.36	235.68	108.75	77.07	38.49	7.17
		0.08%	0.60%	1.76%	4.08%	5.34%	4.51%	5.38%	4.39%	5.77%	8.79%	13.15%	15.02%	13.18%	7.77%	5.14%	2.37%	1.68%	0.84%	0.16%

Table 7-2 : Average speed of travel by LOS and T-band

Average speed of travel table (mph)																				
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
14	Paved - 4 lane - divided	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	58.00	57.67
13	Paved - 4 lane	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	57.00	51.59
12	Paved - 3 lane	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	56.00	55.74	53.40	46.54
11	Paved - 2 lane - Level 3	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	54.57	53.02	50.65	47.22	37.14
10	Paved - 2 lane - Level 2	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	49.36	47.93	45.74	42.57	33.26
9	Paved - 2 lane - Level 1	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	44.18	42.87	40.86	37.95	29.39
8	Hard Surface - Level 2	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	42.71	42.16	41.30	39.99	38.00	35.11	26.61
7	Hard Surface - Level 1	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	41.00	40.88	40.48	39.92	39.05	37.72	35.69	32.75	24.12
6	Gravel - Level 3	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	39.90	39.63	39.21	38.61	37.67	36.26	34.10	30.97	21.77
5	Gravel - Level 2	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.47	37.29	37.03	36.63	36.06	35.17	33.82	31.77	28.78	20.02
4	Gravel - Level 1	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	34.98	34.86	34.69	34.44	34.06	33.52	32.68	31.40	29.44	26.60	18.27
3	Earth 2 lane	12.00	12.00	12.00	12.00	12.00	12.00	11.99	11.98	11.96	11.93	11.89	11.83	11.74	11.61	11.40	11.10	10.63	9.94	7.94
2	Earth 1 lane	9.00	9.00	9.00	9.00	9.00	8.99	8.99	8.98	8.97	8.95	8.92	8.88	8.82	8.74	8.60	8.40	8.09	7.65	6.3
1	Unimproved	6.00	6.00	6.00	6.00	6.00	5.99	5.99	5.99	5.98	5.97	5.96	5.94	5.92	5.88	5.82	5.73	5.59	5.39	4.8

Table 7-3 : Total UCT by LOS and T-band

Grand total of all Road Based Transportation System unit costs.																			Includes: Road & Bridge network, vehicles, human resource, accident, economic, social/environmental costs, minus offsets																		
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	LOS																
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771																	
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620																	
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6																	
14	Paved - 4 lane - divided	\$ 64.893	\$ 25.783	\$ 14.702	\$ 9.621	\$ 6.804	\$ 4.856	\$ 3.692	\$ 2.766	\$ 2.134	\$ 1.741	\$ 1.484	\$ 1.311	\$ 1.193	\$ 1.116	\$ 1.061	\$ 1.024	\$ 0.999	\$ 0.983	\$ 0.974	\$ 0.974																
13	Paved - 4 lane	\$ 55.155	\$ 22.006	\$ 12.613	\$ 8.307	\$ 5.919	\$ 4.268	\$ 3.282	\$ 2.497	\$ 1.961	\$ 1.628	\$ 1.410	\$ 1.264	\$ 1.163	\$ 1.098	\$ 1.051	\$ 1.020	\$ 0.999	\$ 0.986	\$ 0.990	\$ 0.986																
12	Paved - 3 lane	\$ 40.995	\$ 16.509	\$ 9.572	\$ 6.391	\$ 4.627	\$ 3.408	\$ 2.679	\$ 2.099	\$ 1.704	\$ 1.458	\$ 1.297	\$ 1.189	\$ 1.114	\$ 1.066	\$ 1.032	\$ 1.009	\$ 0.996	\$ 0.998	\$ 1.010	\$ 0.995																
11	Paved - 2 lane - Level 3	\$ 29.433	\$ 12.023	\$ 7.091	\$ 4.829	\$ 3.575	\$ 2.708	\$ 2.190	\$ 1.777	\$ 1.496	\$ 1.321	\$ 1.207	\$ 1.130	\$ 1.077	\$ 1.043	\$ 1.021	\$ 1.014	\$ 1.018	\$ 1.035	\$ 1.065	\$ 1.014																
10	Paved - 2 lane - Level 2	\$ 23.355	\$ 9.688	\$ 5.816	\$ 4.041	\$ 3.056	\$ 2.375	\$ 1.969	\$ 1.645	\$ 1.424	\$ 1.287	\$ 1.197	\$ 1.137	\$ 1.095	\$ 1.069	\$ 1.054	\$ 1.051	\$ 1.059	\$ 1.081	\$ 1.117	\$ 1.051																
9	Paved - 2 lane - Level 1	\$ 19.360	\$ 8.159	\$ 4.986	\$ 3.531	\$ 2.724	\$ 2.166	\$ 1.833	\$ 1.568	\$ 1.387	\$ 1.274	\$ 1.200	\$ 1.151	\$ 1.117	\$ 1.095	\$ 1.086	\$ 1.087	\$ 1.099	\$ 1.126	\$ 1.168	\$ 1.086																
8	Hard Surface - Level 2	\$ 14.103	\$ 6.131	\$ 3.873	\$ 2.837	\$ 2.263	\$ 1.866	\$ 1.628	\$ 1.440	\$ 1.311	\$ 1.231	\$ 1.178	\$ 1.143	\$ 1.121	\$ 1.111	\$ 1.108	\$ 1.114	\$ 1.131	\$ 1.164	\$ 1.214	\$ 1.108																
7	Hard Surface - Level 1	\$ 11.586	\$ 5.241	\$ 3.443	\$ 2.619	\$ 2.162	\$ 1.846	\$ 1.657	\$ 1.507	\$ 1.404	\$ 1.341	\$ 1.299	\$ 1.272	\$ 1.257	\$ 1.250	\$ 1.251	\$ 1.260	\$ 1.281	\$ 1.320	\$ 1.379	\$ 1.250																
6	Gravel - Level 3	\$ 8.107	\$ 3.973	\$ 2.801	\$ 2.264	\$ 1.966	\$ 1.773	\$ 1.655	\$ 1.567	\$ 1.498	\$ 1.453	\$ 1.423	\$ 1.404	\$ 1.393	\$ 1.389	\$ 1.393	\$ 1.404	\$ 1.429	\$ 1.475	\$ 1.546	\$ 1.389																
5	Gravel - Level 2	\$ 6.982	\$ 3.640	\$ 2.693	\$ 2.259	\$ 2.018	\$ 1.851	\$ 1.760	\$ 1.692	\$ 1.638	\$ 1.602	\$ 1.580	\$ 1.566	\$ 1.558	\$ 1.557	\$ 1.563	\$ 1.577	\$ 1.604	\$ 1.655	\$ 1.734	\$ 1.557																
4	Gravel - Level 1	\$ 6.606	\$ 3.591	\$ 2.736	\$ 2.345	\$ 2.127	\$ 1.977	\$ 1.887	\$ 1.828	\$ 1.781	\$ 1.752	\$ 1.733	\$ 1.721	\$ 1.716	\$ 1.716	\$ 1.723	\$ 1.740	\$ 1.771	\$ 1.827	\$ 1.914	\$ 1.716																
3	Earth 2 lane	\$ 5.379	\$ 3.740	\$ 3.276	\$ 3.083	\$ 2.945	\$ 2.864	\$ 2.816	\$ 2.791	\$ 2.768	\$ 2.754	\$ 2.747	\$ 2.745	\$ 2.749	\$ 2.759	\$ 2.781	\$ 2.818	\$ 2.881	\$ 2.984	\$ 3.128	\$ 2.745																
2	Earth 1 lane	\$ 5.154	\$ 4.075	\$ 3.769	\$ 3.629	\$ 3.552	\$ 3.499	\$ 3.468	\$ 3.456	\$ 3.443	\$ 3.435	\$ 3.432	\$ 3.434	\$ 3.441	\$ 3.456	\$ 3.483	\$ 3.527	\$ 3.600	\$ 3.718	\$ 3.878	\$ 3.432																
1	Unimproved	\$ 5.948	\$ 5.135	\$ 4.905	\$ 4.800	\$ 4.741	\$ 4.702	\$ 4.679	\$ 4.673	\$ 4.664	\$ 4.659	\$ 4.658	\$ 4.662	\$ 4.670	\$ 4.686	\$ 4.714	\$ 4.758	\$ 4.830	\$ 4.942	\$ 5.086	\$ 4.658																
	Min UCT	5.154	3.591	2.693	2.259	1.966	1.773	1.628	1.440	1.311	1.231	1.178	1.130	1.077	1.043	1.021	1.009	0.995	0.983	0.974																	

Table 7-4: Optimal Levels-of-Service identified in Total UCT table

Traffic Band number		1	2	3-4	5-6	7-11	12-15	16-17	18-19
Min VPD		0	5	13	35	78	580	2920	6530
Max VPD		5	13	35	78	580	2920	6530	14620
Least TCT levels of service		Earth 1 lane	Gravel - Level 1	Gravel - Level 2	Gravel - Level 3	Hard Surface - Level 2	Paved - 2 lane - Level 3	Paved - 3 lane	4 lane - divided
Miles that would fall into these LOS categories		2483	7344	29288	24013	21377	5133	125	15
Average speeds		9	35	37.5	40	43	55	56	58
VMT per year		4	28	268	452	1720	1886	186	46
Accident rate		3.1	3.6	3.6	3.6	2.57	2.1	2.1	2.1
Design speed		15	35	40	45	45	55	55	60
Max grades		10	9	8	7	7	5	4	3
Max curvature		10	9	8.5	8	7	4	3	3
Typical clear zone		5	10	10	10	15	40	40	50
Avg ROW width		66	66	66	80	80	120	140	180
Avg shoulder to shoulder width		16	22	25	27	28	36	48	90
Pavement thickness (Inches of PCC equivalent)		0	0	0	0	1.5	8	8	9
UCT range	Max	5.154	3.591	2.693	1.966	1.628	1.130	1.009	0.983
	Min	5.154	3.591	2.259	1.773	1.178	1.021	0.995	0.974

Table 7-5a : Analysis of UCT cost components – in different T-bands of specific LOS  
Breakdown of UCT cost components for LOS # 10 (Paved 2 lane - Level 2) and for LOS #5 (Gravel -Level 2)

LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.6	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
10	Fixed costs	\$ 22.389	\$ 8.722	\$ 4.850	\$ 3.074	\$ 2.090	\$ 1.409	\$ 1.003	\$ 0.679	\$ 0.458	\$ 0.321	\$ 0.231	\$ 0.171	\$ 0.129	\$ 0.102	\$ 0.083	\$ 0.070	\$ 0.062	\$ 0.056	\$ 0.053
10	Travel distance costs	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627	\$ 0.627
10	Travel time costs	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.339	\$ 0.344	\$ 0.354	\$ 0.371	\$ 0.398	\$ 0.437
		\$ 23.355	\$ 9.688	\$ 5.816	\$ 4.041	\$ 3.056	\$ 2.375	\$ 1.969	\$ 1.645	\$ 1.424	\$ 1.287	\$ 1.197	\$ 1.137	\$ 1.095	\$ 1.069	\$ 1.054	\$ 1.051	\$ 1.059	\$ 1.081	\$ 1.117
5	Fixed costs	\$ 5.537	\$ 2.194	\$ 1.247	\$ 0.813	\$ 0.572	\$ 0.406	\$ 0.315	\$ 0.246	\$ 0.192	\$ 0.156	\$ 0.132	\$ 0.115	\$ 0.102	\$ 0.094	\$ 0.088	\$ 0.084	\$ 0.080	\$ 0.078	\$ 0.076
5	Travel distance costs	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010	\$ 1.010
5	Travel time costs	\$ 0.436	\$ 0.436	\$ 0.436	\$ 0.436	\$ 0.436	\$ 0.436	\$ 0.436	\$ 0.436	\$ 0.436	\$ 0.436	\$ 0.438	\$ 0.441	\$ 0.446	\$ 0.453	\$ 0.465	\$ 0.483	\$ 0.515	\$ 0.568	\$ 0.648
		\$ 6.982	\$ 3.640	\$ 2.693	\$ 2.259	\$ 2.018	\$ 1.851	\$ 1.760	\$ 1.692	\$ 1.638	\$ 1.602	\$ 1.580	\$ 1.566	\$ 1.558	\$ 1.557	\$ 1.563	\$ 1.577	\$ 1.604	\$ 1.655	\$ 1.734

Table 7-5b : Analysis of UCT cost components – in different LOS categories of specific T-bands  
Breakdown of UCT cost components for T-bands 5 (35-52 vpd) and 10 (260-390 vpd)

	Traffic Band number	5	5	5	Totals	10	10	10	Totals
	Min VPD	Fixed Costs	Travel Distance Costs	Travel Time Costs		Fixed Costs	Travel Distance Costs	Travel Time Costs	
	Max VPD								
	Mileage weighted Avg VPD								
14	Paved - 4 lane - divided	\$ 5.865	\$ 0.634	\$ 0.304	\$ 6.804	\$ 0.802	\$ 0.634	\$ 0.304	\$ 1.741
13	Paved - 4 lane	\$ 4.980	\$ 0.632	\$ 0.308	\$ 5.919	\$ 0.688	\$ 0.632	\$ 0.308	\$ 1.628
12	Paved - 3 lane	\$ 3.689	\$ 0.629	\$ 0.310	\$ 4.627	\$ 0.519	\$ 0.629	\$ 0.310	\$ 1.458
11	Paved - 2 lane - Level 3	\$ 2.636	\$ 0.627	\$ 0.311	\$ 3.575	\$ 0.382	\$ 0.627	\$ 0.311	\$ 1.321
10	Paved - 2 lane - Level 2	\$ 2.090	\$ 0.627	\$ 0.339	\$ 3.056	\$ 0.321	\$ 0.627	\$ 0.339	\$ 1.287
9	Paved - 2 lane - Level 1	\$ 1.725	\$ 0.626	\$ 0.373	\$ 2.724	\$ 0.275	\$ 0.626	\$ 0.373	\$ 1.274
8	Hard Surface - Level 2	\$ 1.244	\$ 0.628	\$ 0.390	\$ 2.263	\$ 0.212	\$ 0.628	\$ 0.390	\$ 1.231
7	Hard Surface - Level 1	\$ 1.001	\$ 0.755	\$ 0.406	\$ 2.162	\$ 0.180	\$ 0.755	\$ 0.406	\$ 1.341
6	Gravel - Level 3	\$ 0.672	\$ 0.882	\$ 0.412	\$ 1.966	\$ 0.158	\$ 0.882	\$ 0.412	\$ 1.453
5	Gravel - Level 2	\$ 0.572	\$ 1.010	\$ 0.436	\$ 2.018	\$ 0.156	\$ 1.010	\$ 0.436	\$ 1.602
4	Gravel - Level 1	\$ 0.528	\$ 1.137	\$ 0.462	\$ 2.127	\$ 0.151	\$ 1.137	\$ 0.464	\$ 1.752
3	Earth 2 lane	\$ 0.320	\$ 1.270	\$ 1.355	\$ 2.945	\$ 0.120	\$ 1.270	\$ 1.364	\$ 2.754
2	Earth 1 lane	\$ 0.182	\$ 1.531	\$ 1.838	\$ 3.552	\$ 0.055	\$ 1.531	\$ 1.848	\$ 3.435
1	Unimproved	\$ 0.135	\$ 1.790	\$ 2.816	\$ 4.741	\$ 0.043	\$ 1.790	\$ 2.827	\$ 4.659



Table 7-5c : Details of UCT cost components for single LOS / T-band combination

Breakdown of UCT cost components for LOS 10 (Paved 2L Lvl 2) @ T-band 10 (260-390 vpd)					
Cost categories	Fixed Costs	Travel Distance Costs	Travel Time Costs	Totals	
Road & Bridge network	\$ 0.3078			\$ 0.308	23.9%
Vehicles		\$ 0.6255		\$ 0.626	48.6%
Human resources		\$ 0.0015	\$ 0.3391	\$ 0.341	26.5%
Accidents		\$ 0.0447		\$ 0.045	3.5%
Economic			\$ 0.0002	\$ 0.000	0.0%
Social / Environmental	\$ -			\$ -	0.0%
Cost offsets	\$ (0.0318)			\$ (0.032)	-2.5%
<b>Totals</b>	<b>\$ 0.276</b>	<b>\$ 0.672</b>	<b>\$ 0.339</b>	<b>\$ 1.287</b>	
	21.4%	52.2%	26.4%		

Table 7-6 : Data confidence and error analysis

UCT Order of Magnitude confidence evaluation

Cost component	Pct of total	Conf. fctr	Contribution
Road & Bridge network	31%	95	29.5
Vehicle costs	31%	92	28.5
Human resource costs	31%	90	27.9
Accident costs	5%	92	4.6
Economic costs	0.50%	80	0.4
Social / Environmental	0.50%	70	0.4
Cost offsets	1%	60	0.6

Composite conf. fctr	100%	91.8
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UCT Order of range of error evaluation

Cost component	Pct of total	Ind. Error	Contribution
Road & Bridge network	31%	4	1.2%
Vehicle costs	31%	5	1.6%
Human resource costs	31%	10	3.1%
Accident costs	5%	5	0.3%
Economic costs	0.50%	10	0.1%
Social / Environmental	0.50%	30	0.2%
Cost offsets	1%	30	0.3%

Composite conf. fctr	100%	6.6%
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Table 7-7a-1 Per VMT savings realized when a one mile road segment is upgraded (or downgraded) from current LOS to the least cost LOS of the traffic band.

Difference between min UCT and actual UCT for each LOS / T-band combination

LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
14	Paved - 4 lane - divided	\$ 59.738	\$ 22.192	\$ 12.009	\$ 7.362	\$ 4.837	\$ 3.083	\$ 2.064	\$ 1.327	\$ 0.823	\$ 0.510	\$ 0.306	\$ 0.181	\$ 0.116	\$ 0.073	\$ 0.040	\$ 0.015	\$ 0.005	Optimal	Optimal
13	Paved - 4 lane	\$ 50.001	\$ 18.415	\$ 9.921	\$ 6.048	\$ 3.953	\$ 2.495	\$ 1.853	\$ 1.057	\$ 0.650	\$ 0.397	\$ 0.232	\$ 0.134	\$ 0.086	\$ 0.055	\$ 0.030	\$ 0.011	\$ 0.004	\$ 0.002	\$ 0.016
12	Paved - 3 lane	\$ 35.841	\$ 12.919	\$ 6.879	\$ 4.133	\$ 2.661	\$ 1.635	\$ 1.051	\$ 0.660	\$ 0.393	\$ 0.227	\$ 0.118	\$ 0.059	\$ 0.037	\$ 0.023	\$ 0.011	Optimal	Optimal	\$ 0.015	\$ 0.036
11	Paved - 2 lane - Level 3	\$ 24.279	\$ 8.433	\$ 4.398	\$ 2.570	\$ 1.608	\$ 0.935	\$ 0.561	\$ 0.338	\$ 0.185	\$ 0.090	\$ 0.028	Optimal	Optimal	Optimal	Optimal	\$ 0.005	\$ 0.023	\$ 0.052	\$ 0.091
10	Paved - 2 lane - Level 2	\$ 18.201	\$ 6.098	\$ 3.123	\$ 1.782	\$ 1.090	\$ 0.602	\$ 0.341	\$ 0.206	\$ 0.114	\$ 0.056	\$ 0.019	\$ 0.007	\$ 0.018	\$ 0.026	\$ 0.033	\$ 0.042	\$ 0.065	\$ 0.098	\$ 0.143
9	Paved - 2 lane - Level 1	\$ 14.206	\$ 4.569	\$ 2.293	\$ 1.272	\$ 0.758	\$ 0.393	\$ 0.205	\$ 0.128	\$ 0.076	\$ 0.043	\$ 0.022	\$ 0.021	\$ 0.040	\$ 0.052	\$ 0.065	\$ 0.079	\$ 0.105	\$ 0.143	\$ 0.194
8	Hard Surface - Level 2	\$ 8.949	\$ 2.541	\$ 1.180	\$ 0.578	\$ 0.296	\$ 0.093	Optimal	Optimal	Optimal	Optimal	Optimal	\$ 0.013	\$ 0.044	\$ 0.068	\$ 0.087	\$ 0.105	\$ 0.136	\$ 0.181	\$ 0.240
7	Hard Surface - Level 1	\$ 6.431	\$ 1.650	\$ 0.751	\$ 0.361	\$ 0.196	\$ 0.073	\$ 0.029	\$ 0.067	\$ 0.094	\$ 0.110	\$ 0.121	\$ 0.142	\$ 0.180	\$ 0.207	\$ 0.230	\$ 0.251	\$ 0.286	\$ 0.337	\$ 0.405
6	Gravel - Level 3	\$ 2.952	\$ 0.382	\$ 0.108	\$ 0.006	Optimal	Optimal	\$ 0.027	\$ 0.127	\$ 0.187	\$ 0.222	\$ 0.245	\$ 0.275	\$ 0.316	\$ 0.346	\$ 0.372	\$ 0.395	\$ 0.434	\$ 0.492	\$ 0.571
5	Gravel - Level 2	\$ 1.828	\$ 0.049	Optimal	Optimal	\$ 0.051	\$ 0.078	\$ 0.132	\$ 0.252	\$ 0.327	\$ 0.372	\$ 0.402	\$ 0.436	\$ 0.481	\$ 0.514	\$ 0.542	\$ 0.568	\$ 0.610	\$ 0.672	\$ 0.759
4	Gravel - Level 1	\$ 1.452	Optimal	\$ 0.044	\$ 0.086	\$ 0.161	\$ 0.204	\$ 0.259	\$ 0.389	\$ 0.470	\$ 0.521	\$ 0.554	\$ 0.591	\$ 0.639	\$ 0.673	\$ 0.702	\$ 0.731	\$ 0.776	\$ 0.844	\$ 0.940
3	Earth 2 lane	\$ 0.224	\$ 0.150	\$ 0.583	\$ 0.805	\$ 0.979	\$ 1.091	\$ 1.188	\$ 1.351	\$ 1.457	\$ 1.524	\$ 1.568	\$ 1.615	\$ 1.672	\$ 1.717	\$ 1.761	\$ 1.810	\$ 1.886	\$ 2.001	\$ 2.154
2	Earth 1 lane	Optimal	\$ 0.484	\$ 1.076	\$ 1.370	\$ 1.585	\$ 1.726	\$ 1.839	\$ 2.016	\$ 2.132	\$ 2.204	\$ 2.254	\$ 2.304	\$ 2.364	\$ 2.413	\$ 2.462	\$ 2.518	\$ 2.605	\$ 2.734	\$ 2.904
1	Unimproved	\$ 0.794	\$ 1.544	\$ 2.212	\$ 2.541	\$ 2.775	\$ 2.929	\$ 3.050	\$ 3.234	\$ 3.354	\$ 3.429	\$ 3.480	\$ 3.532	\$ 3.593	\$ 3.643	\$ 3.693	\$ 3.749	\$ 3.835	\$ 3.958	\$ 4.112

Table 7-7a : Cost to upgrade, (or downgrade), from one LOS to another.

		\$28,808	\$41,922	\$67,098	\$101,691	\$116,816	\$145,145	\$178,177	\$214,035	\$392,483	\$485,580	\$622,194	\$779,964	\$1,078,746	\$1,288,022	Cost New	
To:																	
FROM	Proposed new level of service																
LOS #	Existing Level of Service	1	2	3	4	5	6	7	8	9	10	11	12	13	14		
14	Paved - 4 lane - divided	\$ 419,738	\$ 415,367	\$ 406,975	\$ 395,444	\$ 390,402	\$ 380,959	\$ 369,948	\$ 357,996	\$ 298,513	\$ 267,481	\$ 221,943	\$ 169,353	\$ 69,759	\$ -	\$1,288,022	
13	Paved - 4 lane	\$ 349,979	\$ 345,608	\$ 337,216	\$ 325,685	\$ 320,644	\$ 311,200	\$ 300,190	\$ 288,237	\$ 228,754	\$ 197,722	\$ 152,184	\$ 99,594	\$ -	\$ 748,649	\$1,078,746	
12	Paved - 3 lane	\$ 250,385	\$ 246,014	\$ 237,622	\$ 226,091	\$ 221,050	\$ 211,606	\$ 200,596	\$ 188,643	\$ 129,160	\$ 98,128	\$ 52,590	\$ -	\$ 688,764	\$ 898,040	\$779,964	
11	Paved - 2 lane - Level 3	\$ 197,795	\$ 193,424	\$ 185,032	\$ 173,501	\$ 168,459	\$ 159,016	\$ 148,006	\$ 136,053	\$ 76,570	\$ 45,538	\$ -	\$ 468,867	\$ 767,649	\$ 976,925	\$622,194	
10	Paved - 2 lane - Level 2	\$ 152,257	\$ 147,886	\$ 139,494	\$ 127,963	\$ 122,922	\$ 113,479	\$ 102,468	\$ 90,515	\$ 31,032	\$ -	\$ 379,404	\$ 537,174	\$ 835,956	\$ 1,045,232	\$485,580	
9	Paved - 2 lane - Level 1	\$ 121,225	\$ 116,854	\$ 108,462	\$ 96,931	\$ 91,889	\$ 82,446	\$ 71,436	\$ 59,483	\$ -	\$ 289,339	\$ 425,952	\$ 583,723	\$ 882,504	\$ 1,091,780	\$392,483	
8	Hard Surface - Level 2	\$ 61,742	\$ 57,371	\$ 48,979	\$ 37,448	\$ 32,406	\$ 22,963	\$ 11,953	\$ -	\$ 285,466	\$ 378,563	\$ 515,176	\$ 672,947	\$ 971,729	\$ 1,181,005	\$214,035	
7	Hard Surface - Level 1	\$ 49,789	\$ 45,418	\$ 37,026	\$ 25,495	\$ 20,454	\$ 11,011	\$ -	\$ 124,947	\$ 303,395	\$ 396,492	\$ 533,106	\$ 690,876	\$ 989,658	\$ 1,198,934	\$178,177	
6	Gravel - Level 3	\$ 38,779	\$ 34,408	\$ 26,016	\$ 14,485	\$ 9,443	\$ -	\$ 105,604	\$ 141,463	\$ 319,911	\$ 413,008	\$ 549,621	\$ 707,392	\$ 1,006,174	\$ 1,215,450	\$145,145	
5	Gravel - Level 2	\$ 29,336	\$ 24,965	\$ 16,572	\$ 5,041	\$ -	\$ 86,737	\$ 119,769	\$ 155,627	\$ 334,076	\$ 427,173	\$ 563,786	\$ 721,557	\$ 1,020,338	\$ 1,229,614	\$116,816	
4	Gravel - Level 1	\$ 24,294	\$ 19,923	\$ 11,531	\$ -	\$ 65,970	\$ 94,299	\$ 127,331	\$ 163,189	\$ 341,638	\$ 434,735	\$ 571,348	\$ 729,119	\$ 1,027,901	\$ 1,237,177	\$101,691	
3	Earth 2 lane	\$ 12,763	\$ 8,392	\$ -	\$ 68,142	\$ 83,266	\$ 111,596	\$ 144,628	\$ 180,486	\$ 358,934	\$ 452,031	\$ 588,645	\$ 746,415	\$ 1,045,197	\$ 1,254,473	\$67,098	
2	Earth 1 lane	\$ 4,371	\$ -	\$ 46,137	\$ 80,730	\$ 95,855	\$ 124,184	\$ 157,216	\$ 193,074	\$ 371,522	\$ 464,619	\$ 601,233	\$ 759,003	\$ 1,057,785	\$ 1,267,061	\$41,922	
1	Unimproved	\$ -	\$ 27,518	\$ 52,694	\$ 87,287	\$ 102,412	\$ 130,741	\$ 163,773	\$ 199,631	\$ 378,079	\$ 471,176	\$ 607,790	\$ 765,560	\$ 1,064,342	\$ 1,273,618	\$28,808	

Total estimated cost of upgrading a section of LOS 5 road to LOS 10 is \$116,816 + \$427,173 = \$583,989 per mile

Table 7-7b : Comparison of potential cost savings to cost of upgrade/downgrade 20 Yr B/C ratio for improvements [PW of 20yr annual cost savings will be 9.81 x annual cost savings- at 8%]

LOS #	Traffic Band number Min VPD Max VPD Mileage weighted Avg VPD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
14	Paved - 4 lane - divided	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.7	1.5	2.1	2.0	1.8	1.5	1.1	0.5	X	X
13	Paved - 4 lane	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.7	1.6	1.4	2.2	2.1	2.0	1.7	1.4	0.8	0.1	0.8
12	Paved - 3 lane	2.1	2.1	2.1	2.0	2.0	1.8	1.9	1.8	1.6	1.4	1.1	2.3	2.7	2.5	1.7	X	X	0.5	1.6
11	Paved - 2 lane - Level 3	1.8	1.8	1.7	1.6	1.6	1.4	1.4	1.3	1.1	0.8	0.4	X	X	X	X	0.1	0.9	1.5	3.7
10	Paved - 2 lane - Level 2	1.8	1.8	1.7	1.5	1.5	1.2	1.3	1.1	1.0	0.7	0.4	0.0	0.2	0.4	0.7	1.0	2.3	2.7	5.4
9	Paved - 2 lane - Level 1	1.7	1.7	1.7	1.5	1.4	1.1	1.1	1.1	1.0	0.8	0.6	0.1	0.4	0.7	1.3	1.7	3.4	3.7	7.0
8	Hard Surface - Level 2	2.2	2.5	2.4	1.9	2.0	0.9	X	X	X	X	X	0.1	0.3	0.7	1.4	2.0	3.8	4.3	8.0
7	Hard Surface - Level 1	2.0	2.4	2.4	1.9	2.8	1.6	0.1	0.3	0.6	1.0	1.7	0.7	1.3	2.2	3.6	4.5	7.8	7.9	13.3
6	Gravel - Level 3	1.2	1.0	0.8	0.1	X	X	0.1	0.5	1.0	1.8	3.0	1.3	2.2	3.5	5.6	7.0	11.6	11.4	18.5
5	Gravel - Level 2	1.0	0.4	X	X	0.1	0.2	0.3	0.8	1.6	2.8	4.4	2.0	3.2	5.1	8.0	9.9	16.0	15.4	24.3
4	Gravel - Level 1	1.0	X	0.0	0.1	0.3	0.5	0.5	1.2	2.2	3.7	5.8	2.6	4.2	6.5	10.2	12.6	20.2	19.3	29.8
3	Earth 2 lane	0.4	0.1	0.5	1.0	1.4	2.3	2.2	3.8	6.3	9.8	14.9	7.0	10.8	16.2	24.9	30.4	47.9	45.0	67.4
2	Earth 1 lane	X	0.2	0.7	1.5	2.0	3.3	3.2	5.3	8.5	13.2	20.1	9.7	14.9	22.3	34.1	41.6	65.0	60.9	90.0
1	Unimproved	0.4	0.7	1.4	2.6	3.3	5.3	5.1	8.2	13.0	19.9	29.9	14.8	22.4	33.3	50.6	61.4	94.9	87.8	126.8

Table 7-8 : LOS adequacy analysis

Analysis of mileages in each B/C ratio zone																				
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
14	Paved - 4 lane - divided													0.0	0.1		0.2	0.2		
13	Paved - 4 lane												0.0	0.3	0.4			0.2		0.1
12	Paved - 3 lane			0.2		0.1	0.0	0.1	0.2		1.0	2.0	1.6	8.9	0.9	1.0	1.1	1.1	1.3	1.0
11	Paved - 2 lane - Level 3	116.6	135.5	12.1	17.5	28.7	41.7	187.9	384.8	823.3	1119.8	1187.9	836.4	479.5	165.6	80.6	20.9	7.9	1.0	0.2
10	Paved - 2 lane - Level 2	113	122.2	9.0	23.2	64.4	82.1	318.4	692.2	1303.7	1825.3	1976.2	1710.9	1007.1	430.8	179.1	60.9	30.6	11.0	0.5
9	Paved - 2 lane - Level 1		4.1	2.2	7.2	11.9	13.0	28.6	58.0	120.4	67.2	71.0	29.6	34.6	11.9	9.6	0.4			
8	Hard Surface - Level 2		0.4	1.7	5.0	8.4	14.3	34.5	52.2	43.3	30.5	24.2	9.7	4.2	5.3	1.0	0.2			
7	Hard Surface - Level 1	14.4	10.2	13.1	18.7	37.9	58.9	157.8	217.7	196.0	136.9	91.6	46.8	21.4	11.8	2.0	0.1			
6	Gravel - Level 3	1.6	90.0	266.5	717.0	960.9	858.9	841.4	446.5	183.8	58.9	21.8	3.3	0.6	1.2	0.7				
5	Gravel - Level 2	116.6	1766.2	4692.2	8050.8	7736.1	4475.1	3478.3	1319.4	452.6	103.7	37.6	15.2	3.2	1.0	1.5	0.3			
4	Gravel - Level 1	486.9	3517.8	6033.3	8148.6	6374.7	3071.3	2156.6	722.8	226.7	64.4	33.7	7.6	6.1	0.2	1.9	1.0			
3	Earth 2 lane	1154.7	1675.8	810.5	368.5	123.4	38.2	40.6	20.9	5.3	4.6									
2	Earth 1 lane	92.8	156.7	39.7	17.2	6.3	0.9	2.9	0.1		0.1									
1	Unimproved	626.3	97.7	21.7	11.9	4.8	1.0	0.5		0.2	1.0									
		2483.3	7344.5	11902.2	17385.5	15357.6	8655.3	7247.5	3915.0	3355.3	3413.2	3446.0	2661.2	1566.0	629.3	277.4	85.2	39.9	13.4	1.8

Table 7-9 : Percent of network miles in each LOS status zone

		Exceeds need	OK	Upgrade justified	Upgrade urgent
14	Paved - 4 lane - divided	0.32	0.18	0	0
13	Paved - 4 lane	0.78	0.22	0.00	0
12	Paved - 3 lane	15.95	3.56	1.00	0
11	Paved - 2 lane - Level 3	1511.04	3898.779	1.27	0
10	Paved - 2 lane - Level 2	1202.78	8493.89	41.55	0.50
9	Paved - 2 lane - Level 1	124.93	334.66	10.06	0.00
8	Hard Surface - Level 2	15.51	218.11	1.22	0.00
7	Hard Surface - Level 1	140.21	755.33	126.92	0.00
6	Gravel - Level 3	1.63	4364.90	85.78	0.71
5	Gravel - Level 2	0.00	31634.67	612.32	2.80
4	Gravel - Level 1	0.00	29789.26	1027.62	36.87
3	Earth 2 lane	0	4009.47	223.06	9.91
2	Earth 1 lane	0	289.21	27.36	0.20
1	Unimproved	0	724.0	38.39	2.66
89780 Miles		3013.2	84516.2	2196.5	53.7
		3.36%	94.14%	2.45%	0.06%

Chart 7.9a Service level analysis by traffic levels

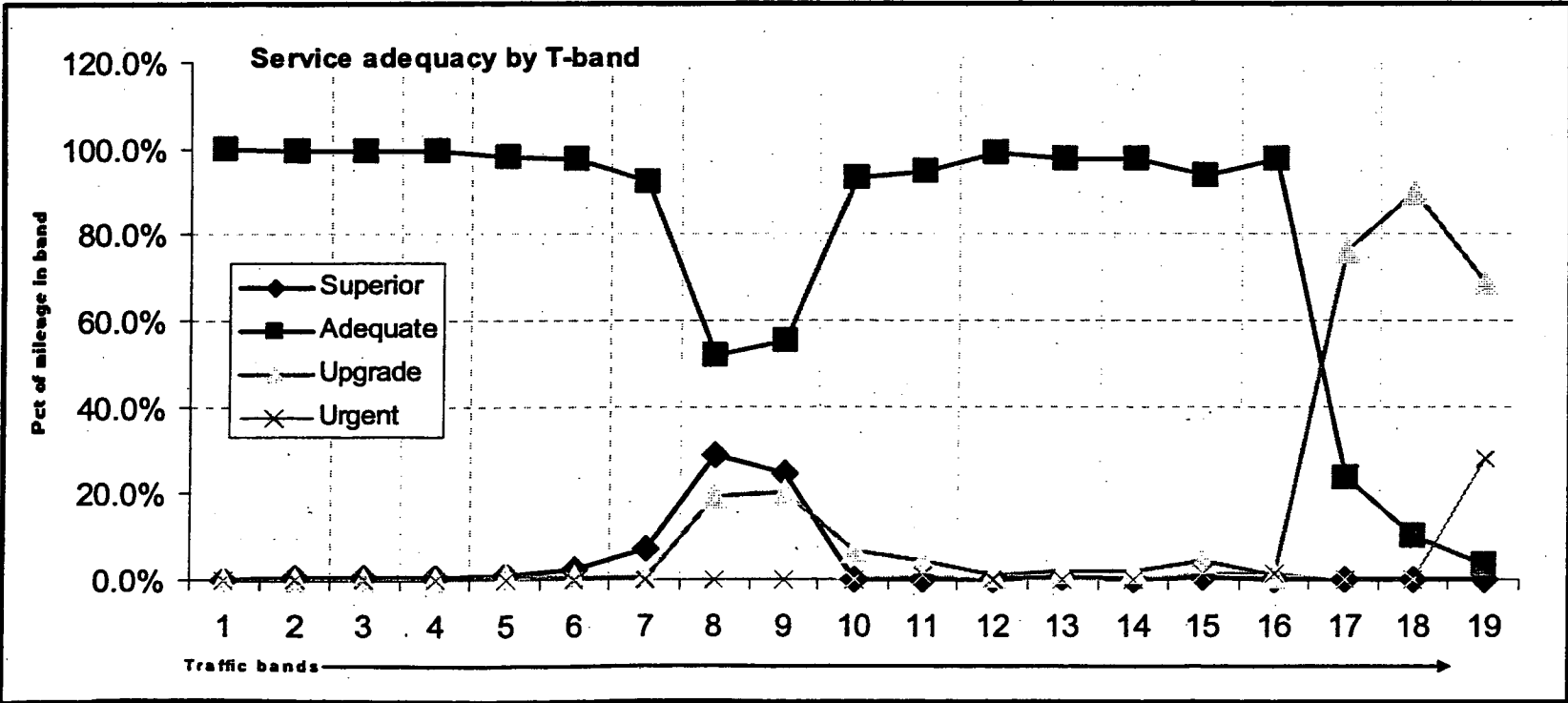




Table 7-10 : Configuration of 'adequate' system

System that would result from making justified improvements																					
Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771		
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620		
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6		
Paved - 4 lane - divided																0.2	30.7	12.0	1.7	44.7	0.05%
Paved - 4 lane																0.0	0.2	0.0	0.1	0.2	0.00%
Paved - 3 lane																3.4	1.1	1.3		5.9	0.01%
Paved - 2 lane - Level 3										1119.8	1187.9	864.2	520.1	181.3	98.3	20.9	7.9			4000.4	4.46%
Paved - 2 lane - Level 2									1303.7	1825.3	1976.2	1710.9	1007.1	430.8	179.1	60.9				8493.9	9.46%
Paved - 2 lane - Level 1									120.4	67.2	71.0	29.6	34.6	11.9						334.7	0.37%
Hard Surface - Level 2						14.3	613.4	1931.3	1551.5	264.0	210.9	9.7	4.2	5.3						4604.6	5.13%
Hard Surface - Level 1							157.8	217.7	196.0	136.9		46.8								755.3	0.84%
Gravel - Level 3		90.0	266.5	717.0	1246.8	1094.7	841.4	446.5	183.8											4886.6	5.44%
Gravel - Level 2	116.6	1766.2	4752.2	8151.5	7736.1	4475.1	3478.3	1319.4												31795.3	35.41%
Gravel - Level 1	486.9	3558.2	6033.3	8148.6	6374.7	3071.3	2156.6													29829.6	33.23%
Earth 2 lane	1154.7	1675.8	810.5	368.5																4009.5	4.47%
Earth 1 lane	98.7	156.7	39.7																	295.1	0.33%
Unimproved	626.3	97.7																		724.0	0.81%
	2483.3	7344.5	11902.2	17385.5	15357.6	8655.3	7247.5	3915.0	3355.3	3413.2	3446.0	2661.2	1566.0	629.3	277.4	85.3	39.9	13.4	1.8	89779.7	

Table 711a : TCT cost of existing network  
Cost of existing road system / per day

LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	
14	Paved - 4 lane - divided	0	0	0	0	0	0	0	0	0	0	0	0	39	194	0	645	952	0	0	
13	Paved - 4 lane	0	0	0	0	0	0	0	0	0	0	0	28	421	686	0	0	856	0	673	
12	Paved - 3 lane	0	0	44	0	21	2	20	51	0	463	1,265	1,346	10,468	1,451	2,313	4,027	5,683	10,558	11,093	
11	Paved - 2 lane - Level 3	188	1,673	1,600	2,488	4,482	7,393	38,379	96,375	266,279	478,996	687,772	670,665	546,344	267,979	191,571	73,987	42,745	8,465	2,687	
10	Paved - 2 lane - Level 2	118	1,212	972	2,767	8,596	12,780	58,493	160,475	401,449	760,618	1,135,143	1,380,415	1,167,092	714,193	439,269	223,784	171,229	93,765	6,113	
9	Paved - 2 lane - Level 1	0	341	200	745	1,413	1,846	4,899	12,818	36,093	27,714	40,898	24,158	40,859	20,250	24,335	1,632	0	0	0	
8	Hard Surface - Level 2	0	24	122	422	830	1,742	5,235	10,591	12,282	12,143	13,688	7,868	4,926	9,138	2,579	846	0	0	0	
7	Hard Surface - Level 1	66	552	836	1,447	3,583	7,116	24,406	46,233	59,513	59,425	57,078	42,284	28,517	22,828	5,766	630	0	0	0	
6	Gravel - Level 3	53	3,681	13,885	47,888	82,573	99,739	129,922	98,574	59,522	27,707	14,892	3,277	825	2,623	2,314	0	0	0	0	
5	Gravel - Level 2	3,257	66,212	235,008	536,389	682,131	542,642	571,223	314,560	160,276	53,805	28,479	16,916	5,327	2,461	5,335	1,749	0	0	0	
4	Gravel - Level 1	12,868	130,103	307,064	563,580	592,604	397,729	379,755	186,197	87,283	36,531	28,003	9,281	11,112	615	7,773	6,202	0	0	0	
3	Earth 2 lane	24,844	64,557	49,385	33,299	15,886	7,170	10,655	8,200	3,198	4,072	0	0	0	0	0	0	0	0	0	
2	Earth 1 lane	1,913	6,578	2,783	1,846	974	213	943	63	0	76	0	0	0	0	0	0	0	0	0	
1	Unimproved	14,901	5,165	1,977	1,682	1,001	293	223	0	251	1,435	0	0	0	0	0	0	0	0	0	
		58,208	280,100	613,878	1,192,552	1,394,094	1,078,666	1,224,152	934,139	1,086,147	1,462,985	2,007,216	2,156,239	1,815,931	1,042,417	681,255	313,501	221,465	112,788	20,566	17696299

Table 7-11b : TCT cost of optimal network      Cost of optimal road system / per day

LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	
14	Paved - 4 lane - divided	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103,695	19,147	
13	Paved - 4 lane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12	Paved - 3 lane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	300,556	210,033	0	0	
11	Paved - 2 lane - Level 3	0	0	0	0	0	0	0	0	0	0	0	2,133,796	1,784,226	1,018,095	659,116	0	0	0	0	
10	Paved - 2 lane - Level 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	Paved - 2 lane - Level 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	Hard Surface - Level 2	0	0	0	0	0	0	1,101,090	794,106	950,829	1,360,051	1,948,082	0	0	0	0	0	0	0	0	
7	Hard Surface - Level 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	Gravel - Level 3	0	0	0	0	1,319,668	1,005,148	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	Gravel - Level 2	0	0	596,117	1,158,326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	Gravel - Level 1	0	271,625	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	Earth 2 lane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Earth 1 lane	51,200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Unimproved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TCT ratio Exist vs Optimal		114%	103%	103%	103%	106%	107%	111%	118%	114%	108%	103%	101%	102%	102%	103%	104%	105%	109%	107%	105%
																					16784907
																					332,658,173

Per yr dif: 332,658,173

Table 7-11c : TCT cost of 'Adequate' system      Cost of 'adequate' road system / per day

LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	
14	Paved - 4 lane - divided	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	645	162,451	93,296	18,485	
13	Paved - 4 lane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	856	0	673	
12	Paved - 3 lane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12,162	5,683	10,558	0	
11	Paved - 2 lane - Level 3	0	0	0	0	0	0	0	0	0	478,996	687,772	692,902	592,618	293,263	233,598	73,987	42,745	0	0	
10	Paved - 2 lane - Level 2	0	0	0	0	0	0	0	0	401,449	760,618	1,135,143	1,380,415	1,167,092	714,193	439,269	223,784	0	0	0	
9	Paved - 2 lane - Level 1	0	0	0	0	0	0	0	0	36,093	27,714	40,898	24,158	40,859	20,250	0	0	0	0	0	
8	Hard Surface - Level 2	0	0	0	0	0	1,742	93,198	391,743	439,659	105,213	119,218	7,868	4,926	9,138	0	0	0	0	0	
7	Hard Surface - Level 1	0	0	0	0	0	0	24,406	46,233	59,513	59,425	0	42,284	0	0	0	0	0	0	0	
6	Gravel - Level 3	0	3,681	13,885	47,888	107,138	127,123	129,922	98,574	59,522	0	0	0	0	0	0	0	0	0	0	
5	Gravel - Level 2	3,257	66,212	238,010	543,099	682,131	542,642	571,223	314,560	0	0	0	0	0	0	0	0	0	0	0	
4	Gravel - Level 1	12,868	131,595	307,064	563,580	592,604	397,729	379,755	0	0	0	0	0	0	0	0	0	0	0	0	
3	Earth 2 lane	24,844	64,557	49,385	33,299	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	Earth 1 lane	2,035	6,578	2,783	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	Unimproved	14,901	5,165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		57,905	277,789	611,128	1,187,866	1,381,874	1,069,236	1,198,504	851,110	996,236	1,431,967	1,983,031	2,147,628	1,805,496	1,036,843	672,867	310,578	211,736	103,854	19,158	17,354,805

Saving per year from current 125  
20 yr PW of savings 1223



[Daily cost]  
Table 7-12 : Comparison / analysis of total TCT costs for existing, optimal, and adequate configurations

Total TCT costs, by traffic band, for each system configuration

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	\$ Total Per day	\$Million Total per year
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771		
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620		
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6		
TCT's for Existing network	58208	280100	613878	1192552	1394094	1078666	1224152	934139	1086147	1462985	2007216	2156239	1815931	1042417	681255	313501	221465	112788	20566	17,696,299	
TCT's for Adequate ntwk	57905	277789	611128	1187866	1381874	1069236	1198504	851110	996236	1431967	1983031	2147628	1805496	1036843	672867	310578	211736	103854	19158	17,354,805	
TCT's for optimal network	51200	271625	596117	1158326	1319668	1005148	1101090	794106	950829	1360051	1948082	2133796	1784226	1018095	659116	300556	210033	103695	19147	16,784,907	
Ratio of adequate to existing	99.48%	99.17%	99.55%	99.61%	99.12%	99.13%	97.90%	91.11%	91.72%	97.88%	98.80%	99.60%	99.43%	99.47%	98.77%	99.07%	95.61%	92.08%	93.15%	98.07%	
Ratio of optimal to existing	87.96%	96.97%	97.11%	97.13%	94.66%	93.18%	89.95%	85.01%	87.54%	92.96%	97.05%	98.96%	98.25%	97.67%	96.75%	95.87%	94.84%	91.94%	93.10%	94.85%	
Savings: Adequate system	303	2311	2749	4686	12220	9429	25648	83029	89911	31018	24186	8611	10436	5574	8389	2923	9729	8934	1408	341,494	124.65
Savings: Optimal system	7008	8475	17761	34226	74426	73518	123063	140033	135318	102934	59134	22443	31705	24322	22139	12945	11432	9093	1419	911,392	332.66

Table 7-13a : Cost to upgrade/downgrade existing system to the optimal LOS in each Traffic Band

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
Paved - 4 lane - divided	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Paved - 4 lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Paved - 3 lane	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.1	0.5	0.0	0.1	0.0	0.0	1.2	0.9
Paved - 2 lane - Level 3	0.3	2.3	2.0	2.9	4.6	6.6	25.6	52.4	112.0	152.4	161.6	0.0	0.0	0.0	0.0	9.8	3.7	1.0	0.2
Paved - 2 lane - Level 2	0.2	1.6	1.1	2.9	7.3	9.3	28.8	62.7	118.0	165.2	178.9	649.1	382.1	163.5	68.0	32.7	16.4	11.5	0.5
Paved - 2 lane - Level 1	0.0	0.4	0.2	0.7	1.0	1.1	1.7	3.5	7.2	4.0	4.2	12.6	14.7	5.1	4.1	0.3	0.0	0.0	0.0
Hard Surface - Level 2	0.0	0.0	0.1	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	5.0	2.1	2.7	0.5	0.1	0.0	0.0	0.0
Hard Surface - Level 1	0.1	0.3	0.3	0.4	0.4	0.6	19.7	27.2	24.5	17.1	11.4	25.0	11.4	6.3	1.1	0.1	0.0	0.0	0.0
Gravel - Level 3	0.1	1.3	2.5	6.8	0.0	0.0	119.0	63.2	26.0	8.3	3.1	1.8	0.3	0.7	0.4	0.0	0.0	0.0	0.0
Gravel - Level 2	2.9	8.9	0.0	0.0	671.0	388.2	541.3	205.3	70.4	16.1	5.8	8.6	1.8	0.6	0.8	0.2	0.0	0.0	0.0
Gravel - Level 1	9.7	0.0	398.0	537.6	601.1	289.6	351.9	118.0	37.0	10.5	5.5	4.3	3.5	0.1	1.1	0.7	0.0	0.0	0.0
Earth 2 lane	9.7	114.2	67.5	30.7	13.8	4.3	7.3	3.8	1.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Earth 1 lane	0.0	12.7	3.8	1.7	0.8	0.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unimproved	17.2	8.5	2.2	1.2	0.6	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	40	150	478	585	1301	700	1096	536	396	375	371	707	417	179	76	44	20	14	2

Table 7-13b : LOS and T-band Capital needs to achieve Optimal or Adequate Level of Service

		Exceeds need	OK	Upgrade justified	Upgrade urgent
14	Paved - 4 lane - divided	0	0	0	0
13	Paved - 4 lane	0	0	0	0
12	Paved - 3 lane	1	1	1	0
11	Paved - 2 lane - Level 3	209	327	1	0
10	Paved - 2 lane - Level 2	114	1757	28	1
9	Paved - 2 lane - Level 1	8	48	4	0
8	Hard Surface - Level 2	0	10	1	0
7	Hard Surface - Level 1	2	113	30	0
6	Gravel - Level 3	0	219	14	0
5	Gravel - Level 2	0	1818	103	2
4	Gravel - Level 1	0	2188	173	7
3	Earth 2 lane	0	222	29	2
2	Earth 1 lane	0	16	3	0
1	Unimproved	0	26	4	0
	7486 \$Millions	335 4.48%	6746 90.12%	392 5.24%	12 0.16%

Table 7-14a : AEOMRD Expenses of Existing Network Road agency cost to operate existing system / per year Uses the Road Agency UCT cost to operate road system table from the RN worksheet

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771		
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620		
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6		
Paved - 4 lane - divided																				0	0.00%
Paved - 4 lane																				0	0.00%
Paved - 3 lane																				0	0.07%
Paved - 2 lane - Level 3						1	2	5	10	14	15	11	6	2	1					69	13.07%
Paved - 2 lane - Level 2					1	1	3	7	14	20	21	18	11	5	2	1				105	19.91%
Paved - 2 lane - Level 1								1	1	1	1									5	0.89%
Hard Surface - Level 2																				3	0.48%
Hard Surface - Level 1							1	2	2	1	1									8	1.59%
Gravel - Level 3			1	3	4	4	4	2	1											19	3.60%
Gravel - Level 2		6	16	28	27	15	12	5	2											111	21.15%
Gravel - Level 1	2	11	19	26	21	10	7	2	1											99	18.92%
Earth 2 lane	2	3	1	1																8	1.44%
Earth 1 lane																				0	0.07%
Unimproved	1																			1	0.14%
	5	22	39	59	53	31	30	24	31	37	38	30	18	7	3	1	0	0	0	428	

Table 7-14b : AEOMRD Expenses of Optimal network Road agency cost to operate idealized system / per year Uses the Road Agency UCT cost to operate road system table from the RN worksheet

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771		
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620		
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6		
Paved - 4 lane - divided																				0	0.08%
Paved - 4 lane																				0	0.00%
Paved - 3 lane																2				2	0.43%
Paved - 2 lane - Level 3												34	20	1	8	4				65	12.40%
Paved - 2 lane - Level 2																				0	0.00%
Paved - 2 lane - Level 1																				0	0.00%
Hard Surface - Level 2							77	42	36	36	37									228	43.36%
Hard Surface - Level 1																				0	0.00%
Gravel - Level 3					65	37														102	19.44%
Gravel - Level 2			41	60																101	19.21%
Gravel - Level 1		24																		24	4.50%
Earth 2 lane																				0	0.00%
Earth 1 lane	3																			3	0.58%
Unimproved																				0	0.00%
	3	24	41	60	65	37	77	42	36	36	37	34	20	8	4	2	1	0	0	526	

TCT ratio Exist vs Optimal	159%	91%	94%	98%	81%	85%	39%	58%	86%	101%	105%	88%	89%	88%	88%	62%	63%	43%	58%	81%
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Table 7-14c : AEOMRD Expenses of 'Adequate' network

Road agency cost to operate 'adequate' system / per year										Uses the Road Agency UCT cost to operate road system table from the RN worksheet											
Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771		
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620		
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6		
Paved - 4 lane - divided	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1			1	0.23%
Paved - 4 lane	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.00%
Paved - 3 lane	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.02%
Paved - 2 lane - Level 3	.	.	.	.	.	.	.	.	.	14	15	11	7	2	1	.	.	.	.	51	9.67%
Paved - 2 lane - Level 2	.	.	.	.	.	.	.	.	14	20	21	18	11	5	2	1	.	.	.	91	17.36%
Paved - 2 lane - Level 1	.	.	.	.	.	.	.	.	1	1	1	.	.	.	.	.	.	.	.	3	0.64%
Hard Surface - Level 2	.	.	.	.	.	.	7	21	17	3	2	.	.	.	.	.	.	.	.	49	9.34%
Hard Surface - Level 1	.	.	.	.	.	.	1	2	2	1	.	.	.	.	.	.	.	.	.	6	1.17%
Gravel - Level 3	.	.	1	3	5	5	4	2	1	.	.	.	.	.	.	.	.	.	.	21	3.96%
Gravel - Level 2	.	6	16	28	27	15	12	5	.	.	.	.	.	.	.	.	.	.	.	110	20.86%
Gravel - Level 1	2	11	19	26	21	10	7	.	.	.	.	.	.	.	.	.	.	.	.	96	18.29%
Earth 2 lane	2	3	1	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	7	1.36%
Earth 1 lane		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	0.07%
Unimproved	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	0.13%
	5	21	38	58	53	30	30	29	34	38	39	30	18	7	3	1	1	0	0	437	

Table 7-15: TCT Component costs by traffic band - for existing system

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
Miles	2483	7344	11902	17386	15358	8655	7248	3915	3355	3413	3446	2661	1566	629	277	85	40	13	2
\$Millions/yr																			
Roads and Bridges																			
Cost of Capital	6.472	31.012	56.374	85.984	78.954	47.217	49.857	46.664	69.061	87.109	92.134	72.095	42.629	16.805	7.462	2.307	1.105	0.371	0.069
Depreciation	2.373	11.331	20.497	31.033	28.191	16.616	16.465	13.610	18.053	21.798	22.814	17.764	10.496	4.175	1.843	0.566	0.270	0.091	0.016
Admin. & Engineering	0.508	1.681	2.814	4.179	3.770	2.206	2.165	1.772	2.343	2.856	3.000	2.375	1.420	0.567	0.249	0.080	0.040	0.015	0.004
Operation, Maint. & Repairs	1.929	8.518	15.375	23.313	21.164	12.411	11.724	8.679	10.418	12.138	12.592	9.770	5.764	2.301	1.012	0.311	0.148	0.050	0.008
Auxillary	0.230	0.781	1.316	1.961	1.777	1.047	1.055	0.909	1.243	1.530	1.611	1.276	0.764	0.305	0.134	0.043	0.022	0.008	0.002
Roads and Bridges	11.513	53.322	96.376	146.469	133.856	79.496	81.267	71.633	101.118	125.431	132.150	103.281	61.072	24.152	10.699	3.306	1.584	0.535	0.099
Vehicles																			
	4.967	31.658	88.043	199.863	257.720	213.867	246.156	178.861	194.415	265.299	386.138	435.587	381.122	224.275	149.139	68.885	48.225	24.087	4.497
Human Resources																			
	5.520	19.897	42.146	88.159	111.399	92.488	108.532	82.925	97.074	138.676	203.045	230.589	202.214	119.763	80.162	38.042	28.008	14.994	2.699
Accidents																			
	0.208	2.004	5.966	13.728	17.767	14.727	16.863	12.102	12.784	17.010	24.671	28.105	24.617	14.726	9.709	4.512	3.170	1.600	0.220
Business & Economic																			
	0.000	0.001	0.003	0.008	0.011	0.010	0.014	0.016	0.032	0.058	0.090	0.105	0.092	0.054	0.036	0.017	0.013	0.007	0.002
Social & Environmental																			
	0.000	0.000	0.000	0.000	0.000	0.258	1.496	2.410	1.306	0.467	0.233	0.080	0.034	0.012	0.023	0.009	0.000	0.000	0.000
Offsets																			
	-0.961	-4.645	-8.468	-12.945	-11.909	-7.133	-7.511	-6.987	-10.287	-12.951	-13.693	-10.719	-6.338	-2.500	-1.110	-0.343	-0.164	-0.055	-0.010
Totals																			
	21.246	102.237	224.065	435.281	508.844	393.713	446.816	340.961	396.444	533.990	732.634	787.027	662.815	380.482	248.658	114.428	80.835	41.168	7.507
Dollars per mile per day																			
	\$ 23	\$ 38	\$ 52	\$ 69	\$ 91	\$ 125	\$ 169	\$ 239	\$ 324	\$ 429	\$ 582	\$ 810	\$ 1,160	\$ 1,656	\$ 2,456	\$ 3,681	\$ 5,549	\$ 8,435	\$ 11,477



Table 7-16 : Total TCT component costs for entire system  
Grand Totals of TCT for existing system

	\$Millions/yr	
<b>Roads and Bridges</b>		
Cost of Capital	793.679	12.3%
Depreciation	237.999	3.7%
Admin. & Engineering	32.042	0.5%
Operation, Maint. & Repairs	157.625	2.4%
Auxiliary	16.014	0.2%
	<b>1237.360</b>	<b>19.2%</b>
<b>Vehicles</b>	<b>3402.801</b>	<b>52.7%</b>
<b>Human Resources</b>	<b>1706.331</b>	<b>26.4%</b>
<b>Accidents</b>	<b>224.490</b>	<b>3.5%</b>
<b>Business &amp; Economic</b>	<b>0.570</b>	<b>0.0%</b>
<b>Social &amp; Environmental</b>	<b>6.327</b>	<b>0.1%</b>
<b>Offsets</b>	<b>-118.730</b>	<b>-1.8%</b>
<b>TOTAL COST OF TRANSPORTATION</b>	<b>6459.149</b>	

Table 7-17 : System costs vs. revenues production  
Miles in each LOS / T-band classification.

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	Totals
Total mi. in T-band:	2483	7344	11902	17386	15358	8655	7248	3915	3355	3413	3446	2661	1566	629	277	85	40	13	2	89779.6
Annual VMT (Millions)	3.63	27.61	80.80	187.20	244.96	206.93	246.81	201.34	264.78	403.40	603.48	689.35	604.68	356.36	235.68	108.75	77.07	38.49	7.17	4588.5
Annual AEOMRD cost (\$M)	4.81	21.53	38.69	58.52	53.13	31.23	30.35	24.06	30.81	36.79	38.41	29.91	17.68	7.04	3.10	0.96	0.46	0.16	0.03	427.7
Annual cap. Impr. Need	0.02	0.15	0.44	1.02	1.33	1.13	1.34	1.10	1.44	2.20	3.29	3.76	3.29	1.94	1.28	0.59	0.42	0.21	0.04	25.0
Total annual financial need	4.83	21.68	39.13	59.54	54.46	32.36	31.70	25.16	32.26	38.99	41.69	33.66	20.97	8.98	4.39	1.55	0.88	0.37	0.07	452.7
Annual RUTF per mile	66	170	306	486	720	1079	1537	2322	3562	5335	7906	11694	17432	25563	38352	57648	87171	129945	180719	
Annual Lcl/PT per mile	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	1448	
Total Annual rev. per mile	1514	1618	1754	1934	2168	2527	2985	3770	5010	6783	9354	13142	18880	27011	39800	59096	88619	131393	182167	
RUTF per year (\$Millions)	0.16	1.25	3.65	8.45	11.06	9.34	11.14	9.09	11.95	18.21	27.24	31.12	27.30	16.09	10.64	4.91	3.48	1.74	0.82	207.1
Lcl/PT per year	3.60	10.63	17.23	25.17	22.24	12.53	10.49	5.67	4.86	4.94	4.99	3.85	2.27	0.91	0.40	0.12	0.06	0.02	0.00	130.0
Total per year	3.76	11.88	20.88	33.62	33.30	21.87	21.64	14.76	16.81	23.15	32.23	34.97	29.57	17.00	11.04	5.03	3.54	1.76	0.33	337.1
Total Revenue less expenses	-1.07	-9.80	-18.24	-25.92	-21.16	-10.49	-10.06	-10.40	-15.44	-15.84	-9.46	1.31	8.59	8.01	6.65	3.48	2.66	1.39	0.26	-115.5
Revenue vs. expense balances	-115.52	-114.45	-104.65	-86.41	-60.49	-39.33	-28.84	-18.78	-8.38	7.06	22.90	32.36	31.05	22.46	14.45	7.79	4.31	1.65	0.26	
Mileages									77646										12133	
RUTF revenue + 8%	0.18	1.35	3.94	9.13	11.94	10.09	12.03	9.82	12.91	19.67	29.42	33.61	29.48	17.37	11.49	5.30	3.76	1.88	0.35	223.7
Lcl / PT +77%	6.36	18.82	30.50	44.56	39.36	22.18	18.57	10.03	8.60	8.75	8.83	6.82	4.01	1.61	0.71	0.22	0.10	0.03	0.00	230.1
Total augmented revenue	6.54	20.17	34.44	53.69	51.30	32.27	30.61	19.85	21.51	28.42	38.25	40.43	33.49	18.99	12.20	5.52	3.86	1.91	0.35	453.8
Total aug. rev. less expenses	1.71	1.51	4.68	5.86	3.16	-0.09	-1.09	-5.31	-10.75	-10.57	-3.44	6.77	12.52	10.00	7.81	3.97	2.98	1.55	0.29	1.1
Revenue vs. expense balances	1.15	0.56	0.95	5.63	11.49	14.64	14.73	15.82	21.13	31.88	42.45	45.89	39.13	26.60	16.60	8.79	4.82	1.83	0.29	

Table 7 -18 : Individual county mileage tables -- 99 tables showing the configuration of each county's system by LOS and Traffic band, with color coding to indicate which miles are Adequate or need improvement.  
See Appendix 1 at end of this supplement ----- 33 sheets

Table 7-19a : Tabulation of counties sorted by estimated service level adequacy

CO	Name	Miles					Percent of system				Svc Level
		Superior	Adequate	Upgrade justified	Upgrade urgent	Total Miles	Superior	Adequate	Upgrade justified	Upgrade urgent	Sum of superior & Adequate
46	Humboldt	41.04	678.58	0.00	0.00	720.42	5.81%	94.19%	0.00%	0.00%	100.00%
98	Worth	73.77	608.59	0.00	0.00	682.36	10.81%	89.19%	0.00%	0.00%	100.00%
47	Ida	63.29	662.42	0.47	0.00	726.18	8.72%	91.22%	0.06%	0.00%	99.94%
37	Greene	129.41	836.73	0.98	0.00	967.12	13.38%	86.52%	0.10%	0.00%	99.90%
76	Pocahontas	62.31	936.46	1.38	0.00	1000.13	6.23%	93.63%	0.14%	0.00%	99.86%
81	Sec	59.08	960.21	1.47	0.00	1020.76	5.79%	94.07%	0.14%	0.00%	99.86%
74	Palo Alto	74.21	869.68	1.57	0.00	945.47	7.85%	91.98%	0.17%	0.00%	99.83%
87	Taylor	38.92	878.15	2.33	0.13	919.53	4.23%	95.50%	0.25%	0.01%	99.73%
11	Buena Vista	33.70	965.32	2.66	0.06	1001.74	3.36%	96.36%	0.27%	0.01%	99.73%
13	Calhoun	46.39	934.17	2.54	0.95	984.05	4.71%	94.93%	0.26%	0.10%	99.66%
12	Butler	9.98	946.52	3.46	0.00	959.95	1.04%	98.60%	0.36%	0.00%	99.64%
60	Lyon	70.48	901.09	3.52	0.00	975.10	7.23%	92.41%	0.36%	0.00%	99.64%
32	Emmet	37.94	600.13	2.34	0.14	640.55	5.92%	93.69%	0.37%	0.02%	99.61%
67	Monona	83.74	977.59	4.15	0.25	1065.73	7.86%	91.73%	0.39%	0.02%	99.59%
55	Kossuth	167.12	1480.23	6.23	0.85	1654.43	10.10%	89.47%	0.38%	0.05%	99.57%
94	Webster	33.67	1132.12	5.82	0.00	1171.41	2.87%	96.65%	0.48%	0.00%	99.52%
18	Cherokee	54.21	942.71	4.90	0.00	1001.82	5.41%	94.10%	0.49%	0.00%	99.51%
99	Wright	10.15	944.47	3.06	1.84	959.52	1.06%	98.43%	0.32%	0.19%	99.49%
27	Decatur	36.89	735.24	4.67	0.00	776.80	4.75%	94.65%	0.60%	0.00%	99.40%
71	O'Brien	60.66	957.98	6.36	0.00	1025.00	5.92%	93.46%	0.62%	0.00%	99.38%
72	Osceola	67.30	843.30	4.59	0.00	715.18	9.41%	89.95%	0.64%	0.00%	99.36%
69	Montgomery	27.21	893.39	4.74	0.00	725.34	3.75%	95.59%	0.65%	0.00%	99.35%
40	Hamilton	27.84	867.99	6.20	0.00	902.03	3.09%	96.23%	0.69%	0.00%	99.31%
66	Mitchell	9.94	758.83	5.52	0.00	774.29	1.28%	98.00%	0.71%	0.00%	99.29%
17	Cerro Gordo	20.99	927.74	7.33	0.21	956.27	2.20%	97.02%	0.77%	0.02%	99.21%
30	Dickinson	29.59	817.53	5.25	0.00	852.37	4.54%	94.66%	0.80%	0.00%	99.20%
34	Floyd	18.51	847.15	7.17	0.00	872.82	2.12%	97.06%	0.82%	0.00%	99.18%
14	Carroll	27.95	959.06	8.22	0.00	995.23	2.81%	96.37%	0.83%	0.00%	99.17%
41	Hancock	75.71	926.55	8.82	0.00	1010.87	7.49%	91.66%	0.85%	0.00%	99.15%
38	Grundy	12.56	803.69	7.04	0.00	823.29	1.53%	97.62%	0.86%	0.00%	99.14%
36	Fremont	13.72	733.56	6.51	0.00	753.79	1.82%	97.32%	0.86%	0.00%	99.14%
21	Clay	28.37	924.92	7.87	0.74	961.90	2.95%	96.16%	0.82%	0.08%	99.10%
93	Wayne	34.82	793.16	7.67	0.00	835.65	4.17%	94.92%	0.92%	0.00%	99.08%
5	Audubon	33.04	724.80	7.06	0.00	764.90	4.32%	94.76%	0.92%	0.00%	99.06%
1	Adair	12.17	1001.94	9.56	0.00	1023.67	1.19%	97.88%	0.83%	0.00%	99.07%
8	Boone	27.47	935.42	9.73	0.25	972.87	2.82%	96.15%	1.00%	0.03%	98.97%
42	Hardin	11.92	950.95	10.19	0.00	972.95	1.21%	97.74%	1.05%	0.00%	98.95%
45	Howard	6.57	731.67	7.96	0.00	746.19	0.88%	98.05%	1.07%	0.00%	98.93%
75	Plymouth	94.48	1314.90	15.82	0.00	1424.99	6.63%	92.27%	1.10%	0.00%	98.90%
73	Page	18.99	897.18	10.49	0.00	926.65	2.05%	96.82%	1.13%	0.00%	98.87%
95	Winnebago	12.22	688.59	8.13	0.00	708.94	1.72%	97.13%	1.15%	0.00%	98.85%
23	Clinton	30.64	972.23	11.79	0.25	1014.92	3.02%	95.79%	1.16%	0.02%	98.81%
35	Franklin	30.38	951.57	11.81	0.00	993.75	3.06%	95.76%	1.19%	0.00%	98.81%
39	Guthrie	39.17	893.23	11.26	0.00	943.66	4.15%	94.66%	1.19%	0.00%	98.81%
33	Fayette	15.18	1107.44	13.66	0.00	1136.27	1.34%	97.46%	1.20%	0.00%	98.80%
79	Poweshiek	19.12	938.85	11.93	0.00	969.89	1.97%	96.80%	1.23%	0.00%	98.77%
15	Cass	35.65	848.17	11.16	0.00	894.98	3.98%	94.77%	1.25%	0.00%	98.75%
84	Sioux	15.01	1323.32	17.16	0.00	1355.48	1.11%	97.63%	1.27%	0.00%	98.73%
19	Chickasaw	6.57	823.50	10.85	0.00	840.92	0.78%	97.93%	1.29%	0.00%	98.71%
89	Van Buren	10.49	721.97	10.81	0.00	743.37	1.41%	97.12%	1.47%	0.00%	98.53%
2	Adams	52.59	652.31	9.81	0.75	715.46	7.35%	91.17%	1.37%	0.11%	98.62%
20	Clarke	24.13	624.93	10.24	0.20	659.49	3.66%	94.76%	1.55%	0.03%	98.42%
80	Ringold	23.84	859.01	16.18	0.44	899.48	2.65%	95.50%	1.80%	0.05%	98.16%
24	Crawford	24.20	1179.82	23.89	0.02	1227.93	1.97%	96.08%	1.95%	0.00%	98.05%
97	Woodbury	78.90	1226.56	26.65	1.09	1333.20	5.82%	92.00%	2.00%	0.08%	97.82%
68	Monroe	23.27	590.54	13.16	0.00	626.96	3.71%	94.19%	2.10%	0.00%	97.80%
48	Iowa	16.03	907.73	19.79	0.40	943.95	1.70%	96.16%	2.10%	0.04%	97.86%
85	Story	16.79	906.66	21.15	0.08	944.67	1.78%	95.98%	2.24%	0.01%	97.75%
70	Muscatine	9.30	594.46	14.12	0.19	618.07	1.50%	96.18%	2.28%	0.03%	97.66%
88	Union	14.27	667.14	16.39	0.00	697.80	2.04%	95.61%	2.35%	0.00%	97.65%
43	Harrison	24.44	1044.72	26.54	0.50	1096.20	2.23%	95.30%	2.42%	0.05%	97.63%
86	Tama	6.06	1128.82	28.82	0.12	1163.91	0.52%	96.98%	2.48%	0.01%	97.51%
10	Buchanan	15.64	888.46	22.07	1.15	927.32	1.69%	95.81%	2.38%	0.12%	97.50%
62	Mahaska	18.96	928.33	24.02	0.80	972.11	1.95%	95.50%	2.47%	0.08%	97.45%
58	Louis	18.64	541.01	14.75	0.00	574.39	3.25%	94.19%	2.57%	0.00%	97.43%
6	Benton	16.16	1154.78	32.51	1.42	1204.86	1.34%	95.84%	2.70%	0.12%	97.16%
64	Marshall	13.83	887.01	27.27	0.00	928.11	1.49%	95.57%	2.84%	0.00%	97.06%
28	Delaware	35.08	851.85	26.68	0.84	914.42	3.83%	93.16%	2.92%	0.08%	96.98%
25	Dallas	14.76	852.59	27.49	0.00	894.83	1.65%	95.28%	3.07%	0.00%	96.93%
82	Scott	17.22	525.04	17.23	0.00	559.50	3.08%	93.84%	3.08%	0.00%	96.92%
26	Davis	11.65	771.09	25.29	0.00	808.03	1.44%	95.43%	3.13%	0.00%	96.87%
61	Madison	4.84	875.89	29.12	0.00	909.85	0.53%	96.27%	3.20%	0.00%	96.80%
50	Jasper	18.21	1171.32	39.12	0.65	1229.29	1.48%	95.28%	3.18%	0.05%	96.76%
3	Allamakee	29.40	825.69	29.13	1.01	885.22	3.32%	93.27%	3.29%	0.11%	96.60%
53	Jones	16.12	800.74	30.44	0.00	847.31	1.90%	94.50%	3.59%	0.00%	96.41%
4	Appanoose	19.80	703.42	26.99	0.09	750.39	2.65%	93.74%	3.80%	0.01%	96.39%
77	Polk	92.34	642.33	26.87	0.69	762.23	12.11%	84.27%	3.53%	0.09%	96.38%
16	Cedar	12.26	906.45	34.46	0.15	953.32	1.29%	95.08%	3.62%	0.02%	96.37%
92	Washington	15.58	857.12	37.59	0.00	910.28	1.71%	94.16%	4.13%	0.00%	95.87%
96	Winneshiek	22.43	988.35	45.00	0.73	1058.51	2.12%	93.55%	4.26%	0.07%	95.67%
54	Keokuk	12.95	871.10	40.22	0.00	924.27	1.40%	94.25%	4.35%	0.00%	95.65%
59	Lucas	6.21	597.34	27.98	0.00	631.53	0.88%	94.59%	4.43%	0.00%	95.57%
49	Jackson	43.22	748.54	36.99	1.39	830.13	5.21%	90.17%	4.46%	0.17%	95.38%
9	Bremer	4.14	874.42	28.66	4.70	711.92	0.58%	94.73%	4.03%	0.66%	95.31%
51	Jefferson	4.41	707.14	37.00	1.24	749.79	0.59%	94.31%	4.93%	0.16%	94.90%
7	Black Hawk	8.10	732.72	37.55	4.21	782.58	1.04%	93.63%	4.80%	0.54%	94.66%
22	Clayton	15.00	1008.26	57.27	0.46	1078.99	1.39%	93.26%	5.31%	0.04%	94.65%
78	Pottawattamie	12.31	1344.38	76.71	1.11	1434.51	0.86%	93.72%	5.35%	0.08%	94.68%
65	Mills	14.16	602.98	34.13	1.85	652.92	2.17%	92.35%	5.23%	0.25%	94.02%
44	Henry	11.54	681.23	42.88	1.04	736.68	1.57%	92.47%	5.82%	0.14%	94.04%
90	Wapello	12.48	694.96	43.95	0.53	711.92	1.75%	92.00%	6.17%	0.07%	93.76%
63	Marion	17.62	781.22	56.40	2.70	857.93	2.05%	91.06%	6.57%	0.31%	93.71%
31	Dubuque	44.79	677.55	58.82	0.00	781.15	5.73%	86.74%	7.53%	0.00%	92.47%
83	Shelby	11.64	860.69	80.39	8.03	960.74	1.21%	89.59%	8.37%	0.84%	90.60%
29	Des Moines	10.15	555.87	60.95	0.50	627.46	1.62%	88.59%	9.71%	0.08%	90.21%
91	Warren	14.13	779.82	83.88	2.34	880.17	1.61%	88.60%	9.53%	0.27%	90.20%
52	Johnson	12.95	816.29	89.35	0.86	919.46	1.41%	88.78%	8.72%	0.09%	89.19%
56	Lee	16.97	623.43	67.98	1.72	710.10	2.39%	87.79%	9.57%	0.24%	90.15%
57	Linn	32.39	1003.77	130.38	4.21	1170.78	2.77%	85.74%	11.14%	0.36%	88.50%
		3013.15	84544.79	2167.97	53.66	89779.57	3.36%	94.17%	2.41%	0.06%	97.53%

Table 7-19b : Tabulation of counties – sorted by super service levels

CO	Name	Miles					Percent of system			
		Superior	Adequate	Upgrade justified	Upgrade urgent	Total Miles	Superior	Adequate	Upgrade justified	Upgrade urgent
37	Greene	129.41	836.73	0.98	0.00	967.12	13.38%	86.52%	0.10%	0.00%
77	Polk	92.34	642.33	26.87	0.69	762.23	12.11%	84.27%	3.53%	0.09%
98	Worth	73.77	608.59	0.00	0.00	682.36	10.81%	89.19%	0.00%	0.00%
55	Kossuth	187.12	1480.23	0.23	0.85	1667.43	10.10%	89.47%	0.38%	0.05%
72	Osceola	67.30	643.30	4.59	0.00	710.60	9.41%	89.95%	0.64%	0.00%
47	Ida	63.29	662.42	0.47	0.00	725.71	8.72%	91.22%	0.06%	0.00%
67	Monona	83.74	977.59	4.15	0.25	1061.33	7.86%	91.73%	0.39%	0.02%
74	Palo Alto	74.21	869.68	1.57	0.00	943.89	7.85%	91.98%	0.17%	0.00%
41	Hancock	75.71	926.55	8.62	0.00	1002.26	7.49%	91.66%	0.85%	0.00%
2	Adams	52.59	652.31	9.81	0.75	714.65	7.35%	91.17%	1.37%	0.11%
60	Lyon	70.48	901.09	3.52	0.00	971.57	7.23%	92.41%	0.36%	0.00%
75	Plymouth	94.48	1314.90	15.62	0.00	1409.38	6.83%	92.27%	1.10%	0.00%
76	Pocahontas	62.31	936.46	1.36	0.00	998.77	6.23%	93.63%	0.14%	0.00%
32	Emmet	37.94	600.13	2.34	0.14	638.07	5.92%	93.69%	0.37%	0.02%
97	Woodbury	78.90	1226.56	26.65	1.09	1332.10	5.92%	92.00%	2.00%	0.08%
71	O'Brien	60.68	957.98	6.36	0.00	1024.62	5.92%	93.46%	0.62%	0.00%
46	Humboldt	41.84	678.58	0.00	0.00	720.42	5.81%	94.19%	0.00%	0.00%
81	Sac	59.08	860.21	1.47	0.00	919.29	5.78%	94.07%	0.14%	0.00%
31	Dubuque	44.79	677.55	58.82	0.00	781.15	5.73%	86.74%	7.53%	0.00%
18	Cherokee	54.21	942.71	4.90	0.00	996.92	5.41%	94.10%	0.49%	0.00%
49	Jackson	43.22	748.54	36.99	1.39	830.13	5.21%	90.17%	4.46%	0.17%
27	Decatur	36.89	735.24	4.67	0.00	772.13	4.75%	94.65%	0.60%	0.00%
13	Cathoun	46.39	934.17	2.54	0.95	982.91	4.71%	94.93%	0.26%	0.10%
30	Dickinson	29.59	617.53	5.25	0.00	652.37	4.54%	94.66%	0.80%	0.00%
5	Audubon	33.04	724.80	7.06	0.00	764.90	4.32%	94.76%	0.92%	0.00%
87	Taylor	38.92	878.15	2.33	0.13	919.53	4.23%	95.50%	0.25%	0.01%
93	Wayne	34.82	793.16	7.67	0.00	827.98	4.17%	94.92%	0.92%	0.00%
39	Guthrie	39.17	893.23	11.26	0.00	932.40	4.15%	94.66%	1.19%	0.00%
15	Cass	35.65	848.17	11.16	0.00	883.82	3.98%	94.77%	1.25%	0.00%
28	Delaware	35.06	851.85	26.68	0.84	913.59	3.93%	93.16%	2.92%	0.09%
69	Montgomery	27.21	693.39	4.74	0.00	720.60	3.75%	95.59%	0.85%	0.00%
68	Monroe	23.27	590.54	13.16	0.00	613.81	3.71%	94.19%	2.10%	0.00%
20	Clarke	24.13	624.93	10.24	0.20	659.07	3.68%	94.76%	1.55%	0.03%
11	Buena Vista	33.70	965.32	2.66	0.08	1001.74	3.36%	96.36%	0.27%	0.01%
3	Allamakee	29.40	825.69	29.13	1.01	884.22	3.32%	93.27%	3.28%	0.11%
58	Louisa	18.64	541.01	14.75	0.00	579.65	3.25%	94.19%	2.57%	0.00%
40	Hamilton	27.84	867.99	6.20	0.00	895.83	3.09%	96.23%	0.69%	0.00%
82	Scott	17.22	525.04	17.23	0.00	542.26	3.08%	93.84%	3.08%	0.00%
35	Franklin	30.38	951.57	11.81	0.00	981.95	3.06%	95.76%	1.19%	0.00%
23	Clinton	30.64	872.23	11.79	0.25	913.92	3.02%	95.79%	1.16%	0.02%
21	Clay	28.37	924.92	7.87	0.74	961.80	2.95%	96.16%	0.82%	0.08%
94	Webster	33.67	1132.12	5.62	0.00	1170.41	2.87%	96.65%	0.48%	0.00%
8	Boone	27.47	935.42	8.73	0.25	971.67	2.82%	96.15%	1.00%	0.03%
14	Carroll	27.95	959.06	8.22	0.00	987.01	2.81%	96.37%	0.83%	0.00%
57	Linn	32.39	1003.77	130.38	4.21	1136.74	2.77%	85.74%	11.14%	0.38%
4	Appanoose	19.90	703.42	26.99	0.09	750.39	2.65%	93.74%	3.60%	0.01%
80	Ringgold	23.84	859.01	16.18	0.44	899.43	2.65%	95.50%	1.80%	0.05%
56	Lee	16.97	623.43	67.98	1.72	708.38	2.39%	87.79%	9.57%	0.24%
43	Harrison	24.44	1044.72	26.54	0.50	1095.70	2.23%	95.30%	2.42%	0.05%
17	Cerro Gordo	20.99	927.74	7.33	0.21	956.27	2.20%	97.02%	0.77%	0.02%
65	Mills	14.16	602.98	34.13	1.65	651.27	2.17%	92.35%	5.23%	0.25%
96	Winneshiek	22.43	988.35	45.00	0.73	1055.51	2.12%	93.55%	4.26%	0.07%
34	Floyd	18.51	847.15	7.17	0.00	872.82	2.12%	97.06%	0.82%	0.00%
63	Marion	17.62	781.22	56.40	2.70	855.24	2.05%	91.06%	6.57%	0.31%
73	Page	18.99	897.18	10.49	0.00	916.17	2.05%	96.82%	1.13%	0.00%
88	Union	14.27	667.14	16.39	0.00	691.41	2.04%	95.61%	2.35%	0.00%
79	Poweshiek	19.12	938.85	11.93	0.00	957.97	1.97%	96.80%	1.23%	0.00%
24	Crawford	24.20	1179.82	23.89	0.02	1227.93	1.97%	96.08%	1.95%	0.00%
82	Mahaska	18.96	928.33	24.02	0.80	971.11	1.95%	95.50%	2.47%	0.08%
53	Jones	16.12	800.74	30.44	0.00	846.30	1.90%	94.50%	3.59%	0.00%
36	Fremont	13.72	733.56	6.51	0.00	753.79	1.82%	97.32%	0.86%	0.00%
85	Story	16.79	906.66	21.15	0.08	944.67	1.78%	95.98%	2.24%	0.01%
90	Wapello	12.48	654.96	43.95	0.53	711.92	1.75%	92.00%	6.17%	0.07%
95	Winnebago	12.22	688.59	8.13	0.00	708.94	1.72%	97.13%	1.15%	0.00%
92	Washington	15.58	857.12	37.59	0.00	910.29	1.71%	94.16%	4.13%	0.00%
48	Iowa	16.03	907.73	18.79	0.40	943.95	1.70%	96.16%	2.10%	0.04%
10	Buchanan	15.64	888.46	22.07	1.15	927.32	1.69%	95.81%	2.38%	0.12%
25	Dallas	14.76	852.59	27.49	0.00	894.83	1.65%	95.28%	3.07%	0.00%
29	Des Moines	10.15	555.87	60.95	0.50	626.46	1.62%	88.59%	9.71%	0.08%
91	Warren	14.13	779.82	83.88	2.34	880.17	1.61%	88.60%	9.53%	0.27%
44	Henry	11.54	681.23	42.88	1.04	735.65	1.57%	92.47%	5.82%	0.14%
38	Grundy	12.56	803.69	7.04	0.00	823.29	1.53%	97.62%	0.86%	0.00%
70	Muscatine	9.30	594.46	14.12	0.19	613.95	1.50%	96.18%	2.28%	0.03%
64	Marshall	13.83	887.01	27.27	0.00	928.11	1.49%	95.57%	2.94%	0.00%
50	Jasper	16.21	1171.32	39.12	0.65	1226.29	1.48%	95.28%	3.18%	0.05%
26	Davis	11.65	771.09	25.29	0.00	807.93	1.44%	95.43%	3.13%	0.00%
89	Van Buren	10.49	721.97	10.91	0.00	743.37	1.41%	97.12%	1.47%	0.00%
52	Johnson	12.95	816.29	89.35	0.86	918.46	1.41%	88.78%	9.72%	0.09%
54	Keokuk	12.95	871.10	40.22	0.00	924.27	1.40%	94.25%	4.35%	0.00%
22	Clayton	15.00	1006.26	57.27	0.46	1078.99	1.39%	93.26%	5.31%	0.04%
6	Benton	16.16	1154.78	32.51	1.42	1203.47	1.34%	95.84%	2.70%	0.12%
33	Fayette	15.18	1107.44	13.66	0.00	1136.27	1.34%	97.46%	1.20%	0.00%
16	Cedar	12.26	906.45	34.46	0.15	953.32	1.29%	95.08%	3.62%	0.02%
66	Mitchell	9.84	758.83	5.52	0.00	774.29	1.28%	98.00%	0.71%	0.00%
42	Hardin	11.82	950.95	10.19	0.00	972.95	1.21%	97.74%	1.05%	0.00%
83	Shelby	11.64	860.69	80.39	8.03	960.74	1.21%	89.59%	8.37%	0.84%
1	Adair	12.17	1001.94	9.56	0.00	1023.67	1.19%	97.88%	0.93%	0.00%
84	Sioux	15.01	1323.32	17.16	0.00	1355.48	1.11%	97.63%	1.27%	0.00%
99	Wright	10.15	944.47	3.06	1.84	959.52	1.06%	98.43%	0.32%	0.19%
12	Butler	9.98	946.52	3.46	0.00	959.95	1.04%	98.60%	0.36%	0.00%
7	Black Hawk	8.10	732.72	37.55	4.21	782.58	1.04%	93.63%	4.80%	0.54%
59	Lucas	6.21	597.34	27.98	0.00	631.53	0.98%	94.59%	4.43%	0.00%
45	Howard	6.57	731.67	7.96	0.00	746.19	0.88%	98.05%	1.07%	0.00%
78	Pottawattamie	12.31	1344.38	76.71	1.11	1433.40	0.86%	93.72%	5.35%	0.09%
19	Chickasaw	6.57	823.50	10.85	0.00	840.92	0.78%	97.93%	1.29%	0.00%
51	Jefferson	4.41	707.14	37.00	1.24	749.79	0.59%	94.31%	4.93%	0.16%
9	Bremer	4.14	674.42	28.66	4.70	711.92	0.58%	94.73%	4.03%	0.66%
61	Madison	4.84	875.89	29.12	0.00	909.85	0.53%	96.27%	3.20%	0.00%
86	Tama	6.06	1128.82	28.92	0.12	1163.91	0.52%	96.98%	2.48%	0.01%

3013.15	84544.79	2167.97	53.66	89779.57	3.36%	94.17%	2.41%	0.06%
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Table 7-19c : Tabulation of counties sorted by apparent upgrade needs

CO	Name	Miles					Percent of system			
		Superior	Adequate	Upgrade justified	Upgrade urgent	Total Miles	Superior	Adequate	Upgrade justified	Upgrade urgent
57	Linn	32.39	1003.77	130.38	4.21	1170.75	2.77%	85.74%	11.14%	0.36%
52	Johnson	12.95	816.29	89.35	0.86	919.45	1.41%	88.78%	9.72%	0.09%
29	Des Moines	10.15	555.87	60.95	0.50	627.47	1.62%	88.59%	9.71%	0.08%
56	Lee	16.97	623.43	67.98	1.72	710.10	2.39%	87.79%	8.57%	0.24%
91	Warren	14.13	779.82	83.88	2.34	880.17	1.61%	88.60%	9.53%	0.27%
83	Shelby	11.64	860.68	80.39	8.03	960.74	1.21%	89.58%	8.37%	0.84%
31	Dubuque	44.79	677.55	58.82	0.00	781.15	5.73%	86.74%	7.53%	0.00%
63	Marion	17.62	781.22	56.40	2.70	857.93	2.05%	91.06%	6.57%	0.31%
80	Wapello	12.48	654.98	43.95	0.53	711.92	1.75%	92.00%	6.17%	0.07%
44	Henry	11.54	681.23	42.88	1.04	736.68	1.57%	92.47%	5.82%	0.14%
78	Pottawattamie	12.31	1344.38	76.71	1.11	1434.51	0.86%	93.72%	5.35%	0.08%
22	Clayton	15.00	1006.26	57.27	0.46	1078.99	1.39%	93.26%	5.31%	0.04%
65	Mills	14.18	602.98	34.13	1.65	652.92	2.17%	92.35%	5.23%	0.25%
51	Jefferson	4.41	707.14	37.00	1.24	749.79	0.59%	94.31%	4.93%	0.16%
7	Black Hawk	8.10	732.72	37.55	4.21	782.58	1.04%	93.63%	4.80%	0.54%
49	Jackson	43.22	748.54	36.99	1.39	830.13	5.21%	90.17%	4.48%	0.17%
59	Lucas	6.21	597.34	27.98	0.00	631.53	0.98%	94.59%	4.43%	0.00%
54	Keokuk	12.95	871.10	40.22	0.00	924.27	1.40%	94.25%	4.35%	0.00%
96	Winneshiek	22.43	988.35	45.00	0.73	1056.51	2.12%	93.55%	4.26%	0.07%
92	Washington	15.58	857.12	37.59	0.00	910.28	1.71%	94.16%	4.13%	0.00%
9	Bremer	4.14	874.42	28.66	4.70	711.92	0.58%	94.73%	4.03%	0.68%
16	Cedar	12.28	906.45	34.46	0.15	953.32	1.28%	95.08%	3.62%	0.02%
4	Appanoose	19.90	703.42	26.99	0.09	750.39	2.65%	93.74%	3.60%	0.01%
53	Jones	16.12	800.74	30.44	0.00	847.31	1.90%	94.50%	3.58%	0.00%
77	Polk	92.34	642.33	26.87	0.69	762.23	12.11%	84.27%	3.53%	0.09%
3	Allamakee	29.40	825.69	29.13	1.01	885.22	3.32%	93.27%	3.29%	0.11%
61	Madison	4.84	875.89	29.12	0.00	909.85	0.53%	96.27%	3.20%	0.00%
50	Jasper	18.21	1171.32	39.12	0.85	1229.29	1.48%	95.28%	3.18%	0.05%
26	Davis	11.65	771.09	25.29	0.00	808.03	1.44%	95.43%	3.13%	0.00%
82	Scott	17.22	525.04	17.23	0.00	559.50	3.08%	93.84%	3.08%	0.00%
25	Dallas	14.76	852.59	27.49	0.00	894.83	1.65%	95.28%	3.07%	0.00%
64	Marshall	13.83	887.01	27.27	0.00	928.11	1.49%	95.57%	2.94%	0.00%
28	Delaware	35.06	851.85	26.68	0.84	914.42	3.83%	93.16%	2.92%	0.09%
6	Benton	16.16	1154.78	32.51	1.42	1204.86	1.34%	95.84%	2.70%	0.12%
58	Louisa	18.64	541.01	14.75	0.00	574.39	3.25%	94.19%	2.87%	0.00%
88	Tama	6.06	1128.82	28.92	0.12	1163.91	0.52%	96.98%	2.48%	0.01%
62	Mahaska	18.96	928.33	24.02	0.80	972.11	1.95%	95.50%	2.47%	0.08%
43	Harrison	24.44	1044.72	26.54	0.50	1096.20	2.23%	95.30%	2.42%	0.06%
10	Buchanan	15.64	888.46	22.07	1.15	927.32	1.69%	95.81%	2.38%	0.12%
88	Union	14.27	667.14	16.39	0.00	697.80	2.04%	95.61%	2.35%	0.00%
70	Muscatine	9.30	594.46	14.12	0.19	618.07	1.50%	96.18%	2.28%	0.03%
85	Story	16.79	906.68	21.15	0.08	944.67	1.78%	95.98%	2.24%	0.01%
68	Monroe	23.27	590.54	13.16	0.00	628.96	3.71%	94.19%	2.10%	0.00%
48	Iowa	16.03	907.73	19.79	0.40	943.95	1.70%	96.16%	2.10%	0.04%
97	Woodbury	78.90	1226.56	26.65	1.09	1333.20	5.92%	92.00%	2.00%	0.08%
24	Crawford	24.20	1179.82	23.89	0.02	1227.93	1.97%	96.08%	1.95%	0.00%
80	Ringgold	23.84	859.01	16.18	0.44	899.48	2.65%	95.50%	1.80%	0.05%
20	Clarke	24.13	624.93	10.24	0.20	659.49	3.66%	94.76%	1.55%	0.03%
89	Van Buren	10.49	721.87	10.81	0.00	743.37	1.41%	97.12%	1.47%	0.00%
2	Adams	52.59	652.31	9.81	0.75	715.46	7.35%	91.17%	1.37%	0.11%
19	Chickasaw	6.57	823.50	10.85	0.00	840.92	0.78%	97.93%	1.29%	0.00%
84	Sioux	15.01	1323.32	17.16	0.00	1355.48	1.11%	97.63%	1.27%	0.00%
15	Cass	35.65	848.17	11.16	0.00	894.98	3.98%	94.77%	1.26%	0.00%
79	Poweshiek	19.12	938.85	11.93	0.00	969.89	1.97%	96.80%	1.23%	0.00%
33	Fayette	15.18	1107.44	13.66	0.00	1136.27	1.34%	97.46%	1.20%	0.00%
39	Guthrie	39.17	893.23	11.26	0.00	943.66	4.15%	94.68%	1.19%	0.00%
35	Franklin	30.38	951.57	11.81	0.00	993.75	3.06%	95.76%	1.18%	0.00%
23	Clinton	30.64	872.23	11.79	0.25	1014.92	3.02%	95.79%	1.16%	0.02%
95	Winnebago	12.22	688.59	8.13	0.00	708.94	1.72%	97.13%	1.15%	0.00%
73	Page	18.99	897.18	10.49	0.00	926.65	2.05%	96.82%	1.13%	0.00%
75	Plymouth	94.48	1314.90	15.62	0.00	1424.99	6.63%	92.27%	1.10%	0.00%
45	Howard	6.57	731.67	7.96	0.00	746.19	0.88%	98.05%	1.07%	0.00%
42	Hardin	11.82	950.95	10.19	0.00	972.95	1.21%	97.74%	1.05%	0.00%
8	Boone	27.47	935.42	9.73	0.25	972.87	2.82%	96.15%	1.00%	0.03%
1	Adair	12.17	1001.94	9.56	0.00	1023.67	1.19%	97.86%	0.93%	0.00%
5	Audubon	33.04	724.80	7.06	0.00	764.90	4.32%	94.76%	0.92%	0.00%
93	Wavne	34.82	793.16	7.67	0.00	835.65	4.17%	94.92%	0.92%	0.00%
36	Fremont	13.72	733.56	6.51	0.00	753.79	1.82%	97.32%	0.86%	0.00%
38	Grundy	12.56	803.69	7.04	0.00	823.29	1.53%	97.62%	0.86%	0.00%
41	Hancock	75.71	926.55	8.62	0.00	1010.87	7.49%	91.66%	0.85%	0.00%
14	Carroll	27.95	959.06	8.22	0.00	995.23	2.81%	96.37%	0.83%	0.00%
34	Floyd	18.51	847.15	7.17	0.00	872.82	2.12%	97.06%	0.82%	0.00%
21	Clay	28.37	924.92	7.87	0.74	961.90	2.95%	96.16%	0.82%	0.08%
30	Dickinson	29.59	617.53	5.25	0.00	652.37	4.54%	94.66%	0.80%	0.00%
17	Cerro Gordo	20.99	927.74	7.33	0.21	956.27	2.20%	97.02%	0.77%	0.02%
66	Mitchell	9.94	758.83	5.52	0.00	774.29	1.28%	98.00%	0.71%	0.00%
40	Hamilton	27.84	867.99	6.20	0.00	902.03	3.09%	96.23%	0.69%	0.00%
69	Montgomery	27.21	693.39	4.74	0.00	725.34	3.75%	95.59%	0.65%	0.00%
72	Osceola	67.30	643.30	4.59	0.00	715.18	9.41%	89.95%	0.64%	0.00%
71	O'Brien	60.66	857.98	6.36	0.00	1025.00	5.92%	93.46%	0.62%	0.00%
27	Decatur	36.89	735.24	4.67	0.00	776.80	4.75%	94.65%	0.60%	0.00%
18	Cherokee	54.21	942.71	4.90	0.00	1001.82	5.41%	94.10%	0.49%	0.00%
94	Webster	33.67	1132.12	5.62	0.00	1171.41	2.87%	96.65%	0.48%	0.00%
67	Monona	83.74	977.59	4.15	0.25	1065.73	7.86%	91.73%	0.39%	0.02%
55	Kossuth	167.12	1480.23	6.23	0.85	1654.43	10.10%	89.47%	0.38%	0.05%
32	Emmet	37.94	600.13	2.34	0.14	640.55	5.92%	93.69%	0.37%	0.02%
60	Lyon	70.48	901.09	3.52	0.00	975.10	7.23%	92.41%	0.36%	0.00%
12	Butler	9.98	946.52	3.46	0.00	959.95	1.04%	98.60%	0.38%	0.00%
99	Wright	10.15	944.47	3.06	1.84	959.52	1.06%	98.43%	0.32%	0.19%
11	Buena Vista	33.70	965.32	2.66	0.06	1001.74	3.36%	96.36%	0.27%	0.01%
13	Calhoun	46.39	934.17	2.54	0.95	984.05	4.71%	94.93%	0.26%	0.10%
87	Taylor	38.92	878.15	2.33	0.13	919.53	4.23%	95.50%	0.25%	0.01%
74	Pelo Alto	74.21	869.68	1.57	0.00	945.47	7.85%	91.98%	0.17%	0.00%
81	Sac	59.08	960.21	1.47	0.00	1020.76	5.79%	94.07%	0.14%	0.00%
76	Pocahontas	62.31	936.46	1.36	0.00	1000.13	6.23%	93.63%	0.14%	0.00%
37	Greene	129.41	836.73	0.98	0.00	967.12	13.38%	86.52%	0.10%	0.00%
47	Ida	63.29	662.42	0.47	0.00	726.18	8.72%	91.22%	0.06%	0.00%
46	Humboldt	41.84	676.58	0.00	0.00	720.42	5.81%	94.19%	0.00%	0.00%
98	Worth	73.77	608.59	0.00	0.00	682.36	10.81%	89.19%	0.00%	0.00%
		3013.15	84544.79	2167.97	53.66	89779.57	3.36%	94.17%	2.41%	0.06%



Table 7-20 : Classification of upgradeable miles by Savings to Cost ratios

Savings to cost ratio	Miles	Daily VMT	20 Year savings \$1000s	Cost of upgrading \$1000s
> 1.0	2335	972098	\$879,960	\$422,739
> 2.0	712	512297	\$492,646	\$154,362
> 3.0	273	149042	\$255,245	\$55,912
> 4.0	122	81744	\$157,187	\$26,802

Tables 7-21 : County by county listing of road segments showing Savings to Cost ratio greeter that 4.0  
See Appendix 2 of this supplement ---- Five sheets

Table 7-22a System configuration after five years growth Miles in each LOS / T-band classification These figures show the system would turn out if no LOS improvements were made during the five years

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Miles	Million VMT/Yr	VMT per mi per day
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771			
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620			
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6			
Paved - 4 lane - divided													0.03		0.11	0.18	0.18			0.5	0.7	3729
Paved - 4 lane													0.03	0.34	0.40		0.16		0.06	1.0	1.1	3038
Paved - 3 lane			0.25			0.11	0.08	0.17		0.81	2.20	1.50	8.44	1.33	0.26	1.37	1.12	1.39	1.48	20.5	18.9	2529
Paved - 2 lane - Level 3	1.49	11.98	13.30	14.74	16.08	48.33	154.11	330.56	699.90	1016.13	1217.99	906.75	540.79	287.19	91.18	43.34	14.06	2.93	0.23	5411.1	1188.2	602
Paved - 2 lane - Level 2	1.00	10.63	9.52	14.36	38.32	104.77	203.39	675.97	992.13	1823.70	1884.24	1856.86	1136.69	584.56	254.64	88.34	37.55	18.47	3.58	9738.7	2388.9	672
Paved - 2 lane - Level 1		4.06	1.60	6.10	9.58	15.95	20.26	49.17	101.92	99.18	70.27	31.69	25.96	20.65	12.45	0.80				469.6	77.4	452
Hard Surface - Level 2		0.03	1.65	1.06	6.23	13.02	25.85	53.15	42.71	39.74	21.70	16.30	5.95	3.60	3.64	0.22				234.8	27.8	325
Hard Surface - Level 1	1.42	9.07	12.72	11.71	26.38	60.55	134.72	179.60	215.49	152.82	117.58	45.24	30.41	19.17	5.44	0.14				1022.5	110.7	297
Gravel - Level 3	1.36	89.79	255.53	521.01	817.00	1099.42	796.37	508.34	237.48	88.68	27.39	7.17	1.22	0.95	1.34					4453.0	138.3	85
Gravel - Level 2	97.23	1774.97	4634.97	6049.77	7293.00	6499.68	3344.63	1711.46	563.02	195.91	52.07	23.26	6.95	1.10	0.58	1.21				32249.8	665.1	57
Gravel - Level 1	394.56	3586.35	5906.85	6313.62	6367.89	4662.19	2199.47	930.72	309.86	117.91	42.15	10.08	7.68	1.24	1.89	0.26	1.02			30853.7	513.9	46
Earth 2 lane	923.65	1905.55	790.71	335.08	150.97	63.76	33.64	27.45	6.33	4.62	0.69									4242.4	25.1	16
Earth 1 lane	75.69	173.82	39.70	15.97	5.43	2.95	2.04	1.11		0.07										316.8	1.5	13
Unimproved	608.86	114.58	22.24	10.18	4.59	2.90	0.46	0.05	0.25	0.44	0.51									765.0	1.9	7
Total mi. in T-band:	2105	7681	11689	13294	14735	12574	6915	4468	3169	3540	3437	2899	1764	920	372	136	54	23	5	89779.6		
	2.34%	8.56%	13.02%	14.81%	16.41%	14.01%	7.70%	4.98%	3.53%	3.94%	3.83%	3.23%	1.96%	1.02%	0.41%	0.15%	0.06%	0.03%	0.01%			
VMT /Year	3.07	28.88	79.36	143.14	235.04	300.60	235.49	229.77	250.08	418.38	601.87	750.92	681.19	521.04	315.96	173.48	104.45	65.58	21.43	5159.7		
	0.06%	0.56%	1.54%	2.77%	4.56%	5.83%	4.56%	4.45%	4.85%	8.11%	11.66%	14.55%	13.20%	10.10%	6.12%	3.36%	2.02%	1.27%	0.42%			

Table 7-22b : Analysis of traffic band mileage shifts induced by growth  
Changes in LOS/T-band mileages after 5 years of growth

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Miles
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	
Paved - 4 lane - divided														-0.11	0.11					0.0
Paved - 4 lane												-0.03	-0.31	-0.06	0.40					0.0
Paved - 3 lane					-0.10	0.10				-0.17	0.17	-0.10	-0.44	0.46	-0.71	0.22	0.04	0.04	0.48	0.0
Paved - 2 lane - Level 3	-0.11	-1.53	1.17	-2.73	-12.61	6.65	-33.75	-54.26	-123.38	-103.70	30.06	70.33	61.27	121.54	10.55	22.47	6.12	1.89		0.0
Paved - 2 lane - Level 2	-0.26	-1.52	0.54	-8.85	-26.05	22.64	-115.03	-16.28	-311.53	-1.57	-91.91	145.95	129.57	153.74	75.54	27.49	7.00	7.47	3.08	0.0
Paved - 2 lane - Level 1			-0.55	-1.06	-2.29	2.94	-8.39	-8.87	-18.48	32.00	-0.74	2.11	-8.61	8.73	2.83	0.38				0.0
Hard Surface - Level 2		-0.35	-0.05	-3.98	-2.16	-1.23	-8.61	0.93	-0.63	9.27	-2.52	6.60	1.80	-1.71	2.64					0.0
Hard Surface - Level 1		-1.16	-0.34	-7.02	-11.54	1.70	-23.13	-38.14	19.48	15.93	26.00	-1.60	8.96	7.40	3.46					0.0
Gravel - Level 3	-0.27	-0.19	-10.97	-195.96	-143.94	240.56	-45.00	61.82	53.70	29.78	5.58	3.88	0.66	-0.27	0.62					0.0
Gravel - Level 2	-19.37	8.79	-57.25	-2001.00	-443.11	2024.55	-133.65	392.07	110.41	92.21	14.51	8.04	3.72	0.08	-0.89	0.89				0.0
Gravel - Level 1	-92.39	68.51	-126.50	-1834.95	-6.79	1590.90	42.90	207.90	83.20	53.50	8.47	2.49	1.55	1.01	-0.05	-0.76	1.02			0.0
Earth 2 lane	-231.10	229.80	-19.76	-33.42	27.54	25.54	-6.92	6.59	0.98	0.05	0.69									0.0
Earth 1 lane	-17.10	17.10		-1.27	-0.85	2.02	-0.88	0.98												0.0
Unimproved	-17.49	16.92	0.57	-1.70	-0.25	1.95	-0.05	0.05		-0.51	0.51									0.0
Total mi. in T-band:	-378	336	-213	-4092	-622	3918	-332	553	-186	127	-9	238	198	291	94	51	14	9	4	0.0

Table 7-23a System configuration after growth, with upgrades Miles in each LOS / T-band classification These figures show the system at Year Five with LOS improvements factored in.

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Miles	Million VMT/Yr	VMT per mi per day
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771			
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620			
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6			
Paved - 4 lane - divided													0.03		0.11	0.18	0.18	4.21	3.31	8.0	26.1	8896
Paved - 4 lane													0.03	0.34	0.40		0.16		0.06	1.0	1.1	3038
Paved - 3 lane			0.25			0.11	0.08	0.17		0.81	2.20	1.50	8.44	1.33	0.26	1.83	2.34	6.16	1.48	27.0	35.6	3619
Paved - 2 lane - Level 3	1.49	11.98	13.30	14.74	16.08	48.33	154.11	330.56	699.90	1016.13	1217.99	907.16	551.61	290.49	98.33	44.49	14.06	2.93		5433.7	1201.0	606
Paved - 2 lane - Level 2	1.00	10.63	9.52	14.36	38.32	104.77	203.39	675.97	992.13	1823.70	1884.24	1856.86	1136.69	584.56	254.64	88.34	37.35	9.48	0.51	9726.5	2350.4	662
Paved - 2 lane - Level 1		4.06	1.60	6.10	9.58	15.95	20.26	49.17	101.92	99.18	70.27	31.69	25.96	20.65	12.45	0.80				469.6	77.4	452
Hard Surface - Level 2		0.03	1.65	1.06	6.23	13.02	28.24	80.89	49.35	177.45	126.53	37.78	5.95	3.60	3.64	0.22				535.6	70.1	358
Hard Surface - Level 1	1.42	9.07	12.72	11.71	26.38	60.55	134.72	179.60	215.49	152.82	117.58	45.24	30.41	19.05	2.09					1018.9	107.6	289
Gravel - Level 3	1.36	89.79	255.53	521.01	819.88	1103.15	796.47	508.34	237.48	88.68	17.23	2.79	1.22	0.11						4443.0	133.9	83
Gravel - Level 2	97.23	1774.97	4634.97	6055.90	7294.70	6499.68	3344.63	1711.46	563.02	148.96	0.74	11.42	3.80							32141.5	643.7	55
Gravel - Level 1	394.56	3586.35	5906.85	6313.62	6367.89	4662.19	2199.47	930.72	309.80	32.27		4.42								30708.1	487.3	43
Earth 2 lane	923.65	1905.55	790.71	335.08	150.97	63.76	33.64	0.86												4204.2	22.6	15
Earth 1 lane	75.69	173.82	39.70	15.97	5.43	2.12														312.7	1.3	12
Unimproved	608.86	114.58	22.24	4.05																749.7	1.5	6
Total mi. in T-band:	2105	7681	11689	13294	14735	12574	6915	4468	3169	3540	3437	2899	1764	920	372	136	54	23	5	89779.6		
	2.34%	8.56%	13.02%	14.81%	16.41%	14.01%	7.70%	4.98%	3.53%	3.94%	3.83%	3.23%	1.96%	1.02%	0.41%	0.15%	0.06%	0.03%	0.01%			
VMT /Year	3.07	28.88	79.36	143.14	235.04	300.60	235.49	229.77	250.08	418.38	601.87	750.92	681.19	521.04	315.96	173.48	104.45	65.58	21.43	5159.7		
	0.06%	0.56%	1.54%	2.77%	4.56%	5.83%	4.56%	4.45%	4.85%	8.11%	11.66%	14.55%	13.20%	10.10%	6.12%	3.36%	2.02%	1.27%	0.42%			

Table 7-23b : Analysis of LOS mileage shifts due to the improvements Additional change in LOS/T-band mileages due to improvements

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Miles
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	
Paved - 4 lane - divided																		8.98	3.31	12.3
Paved - 4 lane																				0.0
Paved - 3 lane																1.62	1.22			2.8
Paved - 2 lane - Level 3												21.89	10.83	3.30	7.15				-0.23	42.9
Paved - 2 lane - Level 2																	-0.20	-8.98	-3.08	-12.3
Paved - 2 lane - Level 1																				0.0
Hard Surface - Level 2							2.50	27.74	6.64	137.70	104.84									279.3
Hard Surface - Level 1														-0.12	-3.35	-0.14				-3.6
Gravel - Level 3					4.59	3.73					-10.16	-4.38		-0.84	-1.34					-10.0
Gravel - Level 2				6.13						-46.94	-51.33	-11.83	-3.15	-1.10	-0.58	-1.21				-108.3
Gravel - Level 1									-0.06	-85.63	-42.15	-5.67	-7.68	-1.24	-1.89	-0.26	-1.02			-145.6
Earth 2 lane								-26.58	-6.33	-4.62	-0.69									-38.2
Earth 1 lane						-0.83	-2.04	-1.11		-0.07										-4.0
Unimproved				-6.13	-4.59	-2.90	-0.46	-0.05	-0.25	-0.44	-0.51									-15.3
Total mi. in T-band:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0

Table 7-24a Daily TCT in Year Five if no LOS improvements have been made

LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	
14	Paved - 4 lane - divided	0	0	0	0	0	0	0	0	0	0	0	0	39	0	277	645	952	0	0	1,912
13	Paved - 4 lane	0	0	0	0	0	0	0	0	0	0	0	0	38	582	986	0	856	0	673	3,136
12	Paved - 3 lane	0	0	44	0	0	25	20	51	0	384	1,369	1,263	9,951	2,207	612	4,817	5,910	10,904	16,390	53,949
11	Paved - 2 lane - Level 3	175	1,484	1,755	2,099	2,512	8,572	31,484	82,787	226,374	434,640	705,174	727,060	616,155	464,601	216,639	153,670	75,708	23,925	2,687	3,777,500
10	Paved - 2 lane - Level 2	94	1,060	1,030	1,712	5,117	16,301	37,363	156,700	305,518	759,964	1,082,347	1,498,173	1,317,243	969,044	624,527	324,884	210,440	157,492	43,892	7,512,901
9	Paved - 2 lane - Level 1	0	341	149	635	1,141	2,263	3,464	10,860	30,554	40,916	40,472	25,884	30,680	35,084	31,479	3,058	0	0	0	256,979
8	Hard Surface - Level 2	0	2	119	89	616	1,591	3,927	10,781	12,103	15,837	12,265	13,222	7,057	6,199	9,380	846	0	0	0	94,033
7	Hard Surface - Level 1	66	490	814	905	2,493	7,321	20,830	38,135	65,428	66,339	73,279	40,843	40,432	37,184	15,823	630	0	0	0	411,011
6	Gravel - Level 3	44	3,674	13,314	34,799	70,204	127,676	122,973	112,221	76,915	41,717	18,699	7,142	1,795	2,050	4,327	0	0	0	0	637,549
5	Gravel - Level 2	2,716	66,542	232,141	403,071	643,060	788,134	549,274	408,034	199,373	101,651	39,476	25,850	11,451	2,657	2,102	6,653	0	0	0	3,482,185
4	Gravel - Level 1	10,426	132,637	300,626	436,669	591,973	603,749	387,309	239,750	119,322	66,874	35,042	12,317	13,929	3,311	7,576	1,588	9,545	0	0	2,972,646
3	Earth 2 lane	19,872	73,410	48,181	30,279	19,430	11,961	8,838	10,793	3,786	4,116	908	0	0	0	0	0	0	0	0	231,575
2	Earth 1 lane	1,561	7,295	2,783	1,709	843	676	659	538	0	76	0	0	0	0	0	0	0	0	0	16,141
1	Unimproved	14,485	6,060	2,029	1,441	950	893	201	33	251	665	1,140	0	0	0	0	0	0	0	0	28,149
		49,439	292,995	602,985	913,408	1,338,339	1,569,164	1,166,342	1,070,682	1,039,624	1,533,179	2,010,169	2,351,754	2,048,771	1,522,919	913,728	496,791	303,411	192,322	63,642	19,479,664

Table 7-24b Daily TCT in Year Five with LOS improvements completed (all with SCR >= 2.5)

LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
	Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	
14	Paved - 4 lane - divided	0	0	0	0	0	0	0	0	0	0	0	0	39	0	277	645	952	32,670	35,334	69,917
13	Paved - 4 lane	0	0	0	0	0	0	0	0	0	0	0	0	38	582	986	0	856	0	673	3,136
12	Paved - 3 lane	0	0	44	0	0	25	20	51	0	384	1,369	1,263	9,951	2,207	612	6,441	12,319	48,460	16,390	99,537
11	Paved - 2 lane - Level 3	175	1,484	1,755	2,099	2,512	8,572	31,484	82,787	226,374	434,640	705,174	727,384	628,489	469,942	233,626	157,748	75,708	23,925	0	3,813,876
10	Paved - 2 lane - Level 2	94	1,060	1,030	1,712	5,117	16,301	37,363	156,700	305,518	759,964	1,082,347	1,498,173	1,317,243	969,044	624,527	324,884	209,324	80,878	6,198	7,397,478
9	Paved - 2 lane - Level 1	0	341	149	635	1,141	2,263	3,464	10,860	30,554	40,916	40,472	25,884	30,680	35,084	31,479	3,058	0	0	0	256,979
8	Hard Surface - Level 2	0	2	119	89	616	1,591	4,291	16,407	13,984	70,706	71,532	30,645	7,057	6,199	9,380	846	0	0	0	233,463
7	Hard Surface - Level 1	66	490	814	905	2,493	7,321	20,830	38,135	65,428	66,339	73,279	40,843	40,432	36,955	6,078	0	0	0	0	400,406
6	Gravel - Level 3	44	3,674	13,314	34,799	70,452	126,109	122,989	112,221	76,915	41,717	11,762	2,776	1,795	241	0	0	0	0	0	620,807
5	Gravel - Level 2	2,716	66,542	232,141	403,479	643,210	788,134	549,274	408,034	199,373	77,293	560	12,697	6,258	0	0	0	0	0	0	3,389,712
4	Gravel - Level 1	10,426	132,637	300,626	436,669	591,973	603,749	387,309	239,750	119,298	18,305	0	5,395	0	0	0	0	0	0	0	2,846,139
3	Earth 2 lane	19,872	73,410	48,181	30,279	19,430	11,961	8,838	340	0	0	0	0	0	0	0	0	0	0	0	212,312
2	Earth 1 lane	1,561	7,295	2,783	1,709	843	486	0	0	0	0	0	0	0	0	0	0	0	0	0	14,677
1	Unimproved	14,485	6,060	2,029	573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23,147
		49,439	292,995	602,985	912,948	1,337,787	1,568,514	1,165,862	1,065,284	1,037,444	1,510,263	1,986,494	2,345,060	2,041,982	1,520,254	906,965	493,621	299,159	185,933	58,596	19,381,587

Table 7-24c Comparison of TCT values over time

Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
Mileage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
Year Zero	58,208	280,100	613,878	1,192,552	1,394,094	1,078,666	1,224,152	934,139	1,086,147	1,462,985	2,007,216	2,156,239	1,815,931	1,042,417	681,255	313,501	221,465	112,788	20,566
																			17,696,299
Year 5 w/o LOS upgrades	49,439	292,995	602,985	913,408	1,338,339	1,569,164	1,166,342	1,070,682	1,039,624	1,533,179	2,010,169	2,351,754	2,048,771	1,522,919	913,728	496,791	303,411	192,322	63,642
Year 5 with LOS upgraded	49,439	292,995	602,985	912,948	1,337,787	1,568,514	1,165,862	1,065,284	1,037,444	1,510,263	1,986,494	2,345,060	2,041,982	1,520,254	906,965	493,621	299,159	185,933	58,596
																			19,479,664
Daily TCT reduction with improvements	0	0	0	-460	-552	-650	-480	-5,398	-2,180	-22,915	-23,675	-6,694	-6,789	-2,665	-6,763	-3,170	-4,251	-6,388	-5,046
																			-98,078

Per year savings 35.80

Table 7-25 : Analysis of growth, growth with improvements, and growth with service level decline

Scenario	Annual VMT (Millions)	Annual TCT (\$Millions)	AEOMRD cost per year (\$Millions)	Capital expense per year (\$Millions)	Total roads cost per year (\$Millions)	Change in road costs (\$Millions)	Change in other costs (\$Millions)	Net change (\$Millions)
Year <sub>0</sub>	4589	6459	428	25	453	---	---	---
Years <sub>5</sub> - No improvements	5160	7110	428	0	428	-25	+676	+651
Years <sub>5</sub> - With improvements	5160	7074	430	25	455	+02	+613	+615
Years <sub>5</sub> - With 1% decline in LOS	5160	7115	427	-25 (est.)	402	-51	+707	+656



**APPENDIX 1 : 33 Sheets of county by county LOS vs. traffic band mileage grids**

Analysis of mileages in each B/C ratio zone																				County: 1		Adair													
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19															
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771															
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620															
Average weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6															
LOS #	Paved - 4 lane - divided	Superior zone																			0.00	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total								
	Paved - 4 lane																				0.00	0.00	0.00	0.00	0.00	0.00%									
	Paved - 3 lane																				0.00	0.00			0.00	0.00%									
	Paved - 2 lane - Level 3																				0.07				14.34	1.40%	0.00%								
	Paved - 2 lane - Level 2																				0.08	0.15	7.32	3.26	54.88	5.36%									
	Paved - 2 lane - Level 1																				0.07	0.23	14.69	0.75	9.43	0.92%	7.68%								
	Hard Surface - Level 2																				0.17	0.26	7.00		0.00	0.00%									
	Hard Surface - Level 1																				1.00	1.00		Upgrade justified	0.00	0.00%									
	Gravel - Level 3																				0.12	0.30	0.10	0.35	1.00	est	2.27	3.26	0.12	0.10	1.88	6.26	0.00	8.13	0.79%
	Gravel - Level 2																				0.08	3.00	14.27	21.14	31.32	22.50	4.04	2.87			0.00	99.21	0	99.21	9.69%
	Gravel - Level 1																				1.68	35.42	131.66	147.76	177.68	76.00	40.70	7.94	1.00		0.00	618.85	1.00	619.85	60.55%
	Earth 2 lane																				4.24	20.00	14.88	19.23	8.82	2.13	1.58	0.57	0.54		0.00	70.87	1.11	71.98	7.03%
	Earth 1 lane																				49.74	51.13	28.45	5.74	6.71	0.50					0.00	135.05	7.207	142.26	13.90%
	Unimproved																				3.36	0.24									0.00	0.00	0.00	0	0.00
		59.1	106.9	178.3	188.0	214.7	111.9	65.4	15.7	18.8	20.3	18.4	0.5	21.7	3.7	0.0	0.0	0.0	0.0	0.0	0.0	12.2	1001.9	9.6	0.0	1023.67	0.35%	0.35%							
		5.78%	10.45%	17.42%	18.37%	20.97%	10.93%	6.39%	1.53%	1.84%	1.99%	1.80%	0.05%	2.12%	0.37%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.19%	97.88%	0.93%	0.00%										

Analysis of mileages in each B/C ratio zone																				County: 2 Adams	
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771	
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620	
Average weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1561.4	2327.5	3498.6	5290.3	7886.2	10967.6	
LOS #	Paved - 4 lane - divided																				
	Paved - 4 lane																				
	Paved - 3 lane																				
	Paved - 2 lane - Level 3					0.18	2.43	6.82	13.39	11.13	21.26	1.30	0.45								
	Paved - 2 lane - Level 2			0.22		1.73	1.73	0.09	14.20	8.42	5.49	5.90	2.31								
	Paved - 2 lane - Level 1					0.22	0.10	0.25													
	Hard Surface - Level 2																				
	Hard Surface - Level 1			0.11																	
	Gravel - Level 3		0.51	4.71	3.90	4.83	11.25	6.00	1.01												
	Gravel - Level 2		1.38	12.63	35.11	17.82	16.64	5.76	0.08												
	Gravel - Level 1	9.84	49.90	88.06	128.08	61.41	37.12	6.03	3.66	0.11	0.66										
	Earth 2 lane	12.70	43.56	30.64	15.93	4.62	0.73														
	Earth 1 lane	0.56	0.83		0.20	0.49					0.07										
	Unimproved	0.92																			
		24.0	96.2	136.4	183.2	91.3	70.0	24.9	32.3	19.7	26.8	7.9	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
		3.36%	13.44%	19.06%	25.61%	12.76%	9.78%	3.49%	4.52%	2.75%	3.75%	1.10%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
</																					

Analysis of mileages in each B/C ratio zone																				County: 3		Allamakee					
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Average weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0.00	0.00	0.00	0.00%	0.26%
13	Paved - 4 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	
12	Paved - 3 lane										0.65	1.87									2.32	0.00		0.00	2.32	0.26%	
11	Paved - 2 lane - Level 3								6.08	5.83	27.27	24.18	11.56	8.78	2.67						11.91	74.45		0.00	86.36	9.76%	
10	Paved - 2 lane - Level 2		0.05					2.43	12.01	5.28	24.07	4.80	2.76	5.55							14.49	42.44	0.00		56.93	6.43%	16.19%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0.00		0.00	0.00%	
7	Hard Surface - Level 1		0.19		0.27	0.08	0.15	0.35	0.38	0.57											0.68	1.30	0.00		1.98	0.22%	
6	Gravel - Level 3				0.10	3.72	0.06	7.02	4.50												0.00	15.39	0.00		15.39	1.74%	0.22%
5	Gravel - Level 2		0.78	2.04	5.65	19.19	18.63	23.33	5.31	3.81				0.65							0.00	74.93	4.46		79.39	8.97%	
4	Gravel - Level 1	51.42	62.93	72.71	84.79	162.81	78.10	76.09	15.77	7.15	0.52	1.01									0.00	588.84	23.44	1.013	613.29	69.28%	
3	Earth 2 lane		0.49																		0.00	0.49	0.00		0.49	0.06%	
2	Earth 1 lane	0.73	2.82	0.36																	0.00	3.91	0.00		3.91	0.44%	
1	Unimproved	19.70	4.24		0.32	0.91															0.00	23.94	1.23		25.17	2.84%	
		71.8	71.5	75.1	91.1	186.7	96.9	109.2	44.0	22.6	52.5	31.7	14.3	15.0	2.7	0.0	0.0	0.0	0.0	0.0	29.4	825.7	29.1	1.0	885.22		
		8.12%	8.08%	8.48%	10.29%	21.09%	10.95%	12.34%	4.98%	2.56%	5.93%	3.58%	1.62%	1.69%	0.30%	0.00%	0.00%	0.00%	0.00%	0.00%	3.32%	93.27%	3.29%	0.11%			

Analysis of mileages in each B/C ratio zone																											
		County:						Appanoose																			
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1067.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.17%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane												0.93	0.34							1.27	0.00		0	1.27	0.17%	
11	Paved - 2 lane - Level 3	0.27	0.63	0.27	1.92	0.36	0.11	0.44	2.22	5.63	3.43	2.91	10.99	1.08	2.80						11.87	21.20		0	33.07	4.41%	11.74%
10	Paved - 2 lane - Level 2			0.63		0.20	2.36		2.86	5.26	3.52	16.72	15.27	8.21							6.04	48.98	0.00		55.02	7.33%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2							0.67													0.00	0.67	0		0.67	0.09%	0.22%
7	Hard Surface - Level 1		0.06	0.32		0.34		0.25													0.72	0.25	0.00	0	0.96	0.13%	
6	Gravel - Level 3					2.02		8.34	8.44	3.34	1.45	0.42									0.00	22.15	1.864	0	24.01	3.20%	
5	Gravel - Level 2	1.97	6.54	21.54	31.61	38.26	43.01	30.77	11.83	4.15		3.00	0.94								0.00	185.51	8.09		193.60	25.80%	82.05%
4	Gravel - Level 1	11.62	56.87	75.87	95.21	77.30	37.49	27.88	12.53	3.43											0.00	382.05	15.96	0.087	398.09	53.05%	
3	Earth 2 lane	1.24	3.44	1.52																	0.00	6.20	0	0	6.20	0.83%	
2	Earth 1 lane	3.19	18.72	4.08	0.81	0.26															0.00	26.00	1.00		27.07	3.61%	4.43%
1	Unimproved	10.42																			0.00	10.42	0.00	0	10.42	1.39%	
		28.7	86.3	104.2	129.5	118.7	83.0	68.2	37.9	21.8	8.4	23.1	28.1	9.6	2.8	0.0	0.0	0.0	0.0	0.0	19.9	703.4	27.0	0.1	750.39		
		3.83%	11.50%	13.89%	17.26%	15.82%	11.06%	9.08%	5.05%	2.91%	1.12%	3.08%	3.75%	1.28%	0.37%	0.00%	0.00%	0.00%	0.00%	0.00%	2.65%	93.74%	3.60%	0.01%			



Analysis of mileages in each B/C ratio zone																				County: 7		Black Hawk						
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19								
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771								
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620								
LOS #	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total	
14	Paved - 4 lane - divided													0.03				0.10			0.03		0.10	0	0	0.13	0.02%	0.11%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0	0.00	0.00%	
12	Paved - 3 lane																0.38	0.06	0.27		0.38	0.35		0	0	0.73	0.09%	
11	Paved - 2 lane - Level 3		0.23		0.09		0.19	0.07	0.98	0.49	4.66	10.14	10.28	5.46	1.27	2.72	0.55				2.05	35.06		0	0	37.11	4.74%	27.69%
10	Paved - 2 lane - Level 2				0.51		0.07	1.31	2.28	9.41	16.23	29.08	19.18	20.29	53.78	5.91	1.62				4.16	155.51	0.00		0	159.67	20.40%	
9	Paved - 2 lane - Level 1						0.13			2.01		1.00	4.05	5.29	2.00	5.46					0.13	12.35	7.46		0	19.93	2.56%	
8	Hard Surface - Level 2			0.03	0.19			0.29	1.15												0.22	1.44	0		0	1.66	0.21%	2.58%
7	Hard Surface - Level 1		0.14		0.15	0.15	0.70	1.14	4.30	3.50	6.17	2.04	6.19	0.10							1.14	17.15	0.29	0	0	18.57	2.37%	
6	Gravel - Level 3			0.04	3.03	2.07	1.51	0.50	0.43	0.48											0.00	8.06	0	0	0	8.06	1.03%	
5	Gravel - Level 2		3.56	15.38	37.36	55.08	43.04	38.21	18.15	5.26	1.25	1.00	2.00								0.00	210.78	9.51	0	0	220.28	28.15%	68.78%
4	Gravel - Level 1		17.93	24.15	68.88	76.05	49.58	50.32	13.58	5.20											0.00	286.91	18.78	4.21	0	309.90	39.60%	
3	Earth 2 lane		3.55			0.80															0.00	3.55	0.802	0	0	4.36	0.56%	
2	Earth 1 lane																				0.00	0.00	0.00	0	0	0.00	0.00%	0.56%
1	Unimproved	1.47			0.72																0.00	1.47	0.72	0	0	2.19	0.28%	0.28%
		1.5	25.4	39.6	110.9	134.1	95.2	91.8	40.9	26.4	28.3	47.5	35.7	31.2	57.0	14.5	2.3	0.4	0.0	0.0	8.1	732.7	37.5	4.2	0	782.58		
		0.19%	3.25%	5.06%	14.17%	17.14%	12.17%	11.73%	5.22%	3.37%	3.62%	6.07%	4.56%	3.98%	7.29%	1.85%	0.29%	0.05%	0.00%	0.00%	1.04%	93.63%	4.80%	0.54%				

Analysis of mileages in each B/C ratio zone																					County:		8 Boone				
Traffic Band number:		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane						0.01														0.01	0.00		0	0.01	0.00%	
11	Paved - 2 lane - Level 3				0.11	0.05	1.27	0.50	3.73	18.46	11.05	36.19	15.27	12.29	7.77	2.00	1.02				24.13	85.60		0	109.73	11.28%	18.12%
10	Paved - 2 lane - Level 2							0.75	0.44	8.80	15.35	9.00	9.97	13.10	5.66	0.16					1.18	62.04	0.00		63.22	6.50%	
9	Paved - 2 lane - Level 1					0.50		0.52	1.13	1.21											2.15	1.21	0.00		3.36	0.35%	
8	Hard Surface - Level 2									0.50											0.00	0.50	0		0.50	0.05%	0.32%
7	Hard Surface - Level 1							0.39	0.51		0.49	1.00	0.05		0.14						0.00	2.39	0.19	0	2.59	0.27%	
6	Gravel - Level 3					2.01	1.49	4.00	1.00												0.00	8.49	0	0	8.49	0.87%	
5	Gravel - Level 2	1.25	19.68	81.86	197.88	150.87	67.89	40.14	18.49	2.67											0.00	578.06	2.67	0	580.73	59.69%	80.86%
4	Gravel - Level 1	0.41	12.57	48.44	65.57	37.57	16.49	10.25	5.05	0.80											0.00	191.29	5.85	0.249	197.39	20.29%	
3	Earth 2 lane		0.12	0.75				1.01													0.00	0.87	1.013	0	1.88	0.19%	
2	Earth 1 lane																				0.00	0.00	0.00	0	0.00	0.00%	0.19%
1	Unimproved	4.97																			0.00	4.97	0.00	0	4.97	0.51%	0.51%
		6.6	32.4	131.1	263.6	191.0	87.1	57.6	30.4	31.6	27.7	46.4	25.3	25.4	13.6	2.2	1.0	0.0	0.0	0.0	27.5	935.4	9.7	0.2	972.87		
		0.68%	3.33%	13.47%	27.09%	19.63%	8.96%	5.92%	3.12%	3.25%	2.85%	4.77%	2.60%	2.61%	1.39%	0.22%	0.10%	0.00%	0.00%	0.00%	2.82%	96.15%	1.00%	0.03%			

Analysis of mileages in each B/C ratio zone																				County: 9		Bremer					
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3						0.02				0.44	0.21	0.50		0.43						0.02	1.58		0	1.60	0.22%	17.47%
10	Paved - 2 lane - Level 2		0.64	0.37	0.57	0.72	0.54	0.62	0.09	1.94	17.29	30.32	21.85	30.59	10.97	6.29					3.54	119.25	0.00		122.79	17.25%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	0.10%
7	Hard Surface - Level 1						0.58								0.12						0.58	0.00	0.12	0	0.70	0.10%	
6	Gravel - Level 3				0.62		1.72	7.44	8.27	7.31	1.50										0.00	25.35	1.498	0	26.85	3.77%	
5	Gravel - Level 2		0.23	7.08	38.90	65.40	24.61	23.49	9.84	6.36			1.64								0.00	169.55	8.00	0	177.54	24.94%	81.59%
4	Gravel - Level 1	4.54	15.45	44.55	111.53	109.27	47.25	20.64	11.08	5.62	1.00	4.28	0.07	0.76		0.44					0.00	353.22	18.52	4.704	376.45	52.88%	
3	Earth 2 lane	1.34		0.74																	0.00	2.08	0	0	2.08	0.29%	
2	Earth 1 lane	0.52	0.06																		0.00	0.58	0.00	0	0.58	0.08%	0.37%
1	Unimproved	1.99	0.83	0.44		0.08															0.00	2.82	0.52	0	3.34	0.47%	0.47%
		8.4	17.2	53.2	151.6	175.5	74.7	52.2	29.3	21.2	20.2	36.4	22.4	31.3	11.5	6.7	0.0	0.0	0.0	0.0	4.1	674.4	28.7	4.7	711.92		
		1.18%	2.42%	7.47%	21.30%	24.65%	10.50%	7.33%	4.11%	2.98%	2.84%	5.12%	3.15%	4.40%	1.62%	0.95%	0.00%	0.00%	0.00%	0.00%	0.58%	94.73%	4.03%	0.66%			



Analysis of mileages in each B/C ratio zone																					County:		10		Buchanan		
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
LOS #	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	218.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.0%	0.0%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.0%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.0%	
11	Paved - 2 lane - Level 3		0.19	0.12	0.25	0.21	0.05	1.45	0.06	10.12	29.29	32.96	23.99	22.21	4.06	4.52					12.45	117.02		0	129.47	14.0%	
10	Paved - 2 lane - Level 2						1.54		1.51	0.35	0.15	6.47	6.68	11.32	1.20						3.05	26.17	0.00		29.22	3.2%	17.1%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.0%	
8	Hard Surface - Level 2					0.15					0.96										0.15	0.96	0		1.11	0.1%	
7	Hard Surface - Level 1									0.12				1.00	1.00						0.00	0.12	2.00		2.12	0.2%	
6	Gravel - Level 3		0.75	0.05	14.93	9.79	17.91	19.87	22.34	10.64	5.84	0.34			0.22						0.00	96.28	6.181	0.217	102.68	11.1%	79.9%
5	Gravel - Level 2		10.54	37.51	54.23	86.58	74.08	64.00	36.27	3.49	0.75	0.91									0.00	363.20	5.15		368.35	39.7%	
4	Gravel - Level 1		37.27	38.73	71.57	57.68	25.88	31.82	3.64	1.16	1.24	0.93									0.00	262.93	6.05	0.032	269.91	28.1%	
3	Earth 2 lane		12.24	4.11	1.90	0.75	1.68		0.26												0.00	18.26	2.697		20.95	2.3%	
2	Earth 1 lane		1.78																		0.00	1.78	0.00		1.78	0.2%	2.5%
1	Unimproved	0.78	0.95																		0.00	1.73	0.00		1.73	0.2%	0.2%
		0.08%	6.87%	8.68%	15.41%	16.73%	13.06%	12.63%	6.91%	2.79%	4.12%	4.49%	3.31%	3.72%	0.67%	0.51%	0.00%	0.00%	0.00%	0.00%	15.6	888.5	22.1	1.1	927.32		
																					1.7%	95.8%	2.4%	0.1%			

Analysis of mileages in each B/C ratio zone																				County: 11 Buena Vista							
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	218.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3							0.08			0.39	0.13	7.25	0.11	1.67						0.08	9.55		0	9.63	0.96%	
10	Paved - 2 lane - Level 2			0.24	0.04	0.09		13.54	19.71	37.98	43.49	61.82	36.02	7.55	6.53	2.13	4.14				33.62	199.65	0.00		233.27	23.29%	24.25%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	
7	Hard Surface - Level 1											0.15									0.00	0.15	0.00	0	0.15	0.01%	
6	Gravel - Level 3			3.22	24.74	27.35	13.10	9.65	4.00	1.50	0.50										0.00	83.56	0.497	0	84.06	8.39%	74.80%
5	Gravel - Level 2	0.01	20.46	54.08	119.77	94.04	23.51	24.63	10.14	0.71											0.00	346.65	0.71	0	347.36	34.68%	
4	Gravel - Level 1	0.06	33.43	86.00	115.93	61.18	11.66	8.17	1.32	0.13		0.66									0.00	316.42	1.45	0.662	317.93	31.74%	
3	Earth 2 lane		1.40	0.85																	0.00	2.25	0	0	2.25	0.22%	
2	Earth 1 lane																				0.00	0.00	0.00	0	0.00	0.00%	0.22%
1	Unimproved	5.27	1.83																		0.00	7.10	0.00		7.10	0.71%	0.71%
		5.3	57.1	144.4	260.5	182.7	48.3	56.1	35.2	39.6	45.1	62.2	43.3	7.7	8.2	2.1	4.1	0.0	0.0	0.0	33.7	965.3	2.7	0.1	1001.74		
		0.53%	5.70%	14.41%	26.00%	18.23%	4.82%	5.60%	3.51%	3.95%	4.50%	6.20%	4.32%	0.76%	0.82%	0.21%	0.41%	0.00%	0.00%	0.00%	3.36%	98.36%	0.27%	0.01%			

Analysis of mileages in each B/C ratio zone																					County:		12		Butler		
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3										1.32	0.09	0.03	0.15							0.00	1.59		0	1.59	0.17%	
10	Paved - 2 lane - Level 2			0.15	0.38	0.62	0.43	1.52	6.88	14.39	27.44	62.93	55.13	24.26	5.14						9.98	189.29	0.00		199.27	20.76%	20.92%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	
7	Hard Surface - Level 1							1.07		0.38											0.00	1.45	0.00	0	1.45	0.15%	
6	Gravel - Level 3		23.07	68.44	115.97	131.92	76.59	60.18	19.86	3.03	3.46										0.00	499.07	3.455	0	502.52	52.35%	76.61%
5	Gravel - Level 2		11.86	57.65	57.49	40.23	23.74	6.42	4.32												0.00	201.71	0.00	0	201.71	21.01%	
4	Gravel - Level 1	0.12	8.47	5.02	8.81	3.45	0.81	4.55													0.00	31.23	0.00	0	31.23	3.25%	
3	Earth 2 lane		11.27	0.78	0.60																0.00	12.66	0	0	12.66	1.32%	
2	Earth 1 lane		3.89																		0.00	3.89	0.00	0	3.89	0.41%	1.72%
1	Unimproved	5.64																			0.00	5.64	0.00		5.64	0.59%	0.59%
		5.8	58.6	132.0	183.3	176.2	101.6	73.7	31.1	17.8	32.2	63.0	55.2	24.4	5.1	0.0	0.0	0.0	0.0	0.0	10.0	946.5	3.5	0.0	959.95		
		0.60%	6.10%	13.75%	19.09%	18.36%	10.58%	7.68%	3.24%	1.85%	3.36%	6.56%	5.75%	2.54%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	1.04%	98.60%	0.36%	0.00%			



		Analysis of mileages in each B/C ratio zone																			Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
		County: 16 Cedar																									
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3			0.33		0.11			2.85	1.64		2.56	11.71	3.59	1.57						4.93	19.43		0	24.36	2.56%	13.93%
10	Paved - 2 lane - Level 2	0.26	0.06	0.50	0.44	0.73	0.28	0.42	4.33	4.32	7.14	21.98	33.03	19.74	14.74	0.51					7.02	101.47	0.00		108.48	11.38%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2					0.10		0.38		0.80			0.52								0.10	1.70	0		1.80	0.19%	0.42%
7	Hard Surface - Level 1					0.05	0.16	0.07	0.48	0.48			0.94								0.21	1.01	0.94	0	2.16	0.23%	
6	Gravel - Level 3		0.07	0.80	1.04	1.79		3.68	7.18	5.08											0.00	19.65	0	0	19.65	2.06%	
5	Gravel - Level 2	0.03	1.77	4.54	13.14	47.46	36.51	27.53	14.24	10.74	1.04	0.27				0.15					0.00	145.22	12.05	0.149	157.42	16.51%	78.88%
4	Gravel - Level 1	13.85	21.00	64.74	131.57	165.38	97.03	61.06	17.33	3.00											0.00	554.62	20.33	0	574.94	60.31%	
3	Earth 2 lane	28.72	8.84	15.74	3.70		0.60														0.00	57.00	0.597	0	57.60	6.04%	
2	Earth 1 lane	0.62	0.18	0.21		0.08															0.00	1.00	0.08	0	1.08	0.11%	6.16%
1	Unimproved	5.31	0.05	0.47																	0.00	5.36	0.47	0	5.83	0.61%	
		48.8	32.0	67.3	149.9	215.7	134.0	93.7	46.4	26.0	8.2	24.8	45.7	23.9	16.3	0.7	0.0	0.0	0.0	0.0	12.3	906.5	34.5	0.1	953.32		
		5.12%	3.35%	9.16%	15.72%	22.63%	14.05%	9.83%	4.87%	2.73%	0.86%	2.60%	4.79%	2.50%	1.71%	0.07%	0.00%	0.00%	0.00%	0.00%	1.29%	95.08%	3.62%	0.02%			



### Analysis of mileages in each B/C ratio zone

**County:** 19 Chickasaw

Analysis of mileages in each SIC ratio zone		County: 19 Chickasaw																									
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4385	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4385	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.9	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0	0.00	0.00%	
11	Paved - 2 lane - Level 3							0.08		0.23	4.42	6.82	8.74	10.14							0.31	30.12	0	0	30.43	3.62%	15.87%
10	Paved - 2 lane - Level 2					1.01	0.06	1.01	4.18	13.34	29.59	17.16	28.02	10.18	0.51						6.28	96.79	0.00	0	103.06	12.26%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00	0	0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0	0	0.00	0.00%	0.09%
7	Hard Surface - Level 1							0.67	0.06												0.00	0.73	0.00	0	0.73	0.09%	
6	Gravel - Level 3			0.99	3.51	9.16	18.15	13.66	3.55												0.00	49.02	0	0	49.02	5.83%	
5	Gravel - Level 2		3.96	23.28	55.74	42.21	39.33	41.49	11.29	0.39			1.07								0.00	217.29	1.48	0	218.75	26.01%	82.68%
4	Gravel - Level 1		26.65	73.99	118.60	110.21	53.82	35.06	8.48	0.66											0.00	418.34	9.14	0	427.48	50.83%	
3	Earth 2 lane		1.89	2.00	1.01																0.00	4.90	0	0	4.90	0.58%	
2	Earth 1 lane																				0.00	0.00	0.00	0	0.00	0.00%	0.58%
1	Unimproved	2.11	4.20	0.25																	0.00	6.31	0.25	0	6.56	0.78%	
		2.1	36.7	100.5	178.9	162.6	111.4	92.0	27.6	14.6	34.0	24.0	35.8	20.3	0.5	0.0	0.0	0.0	0.0	0.0	6.6	823.5	10.8	0	840.92		
		0.25%	4.36%	11.95%	21.27%	19.33%	13.24%	10.94%	3.28%	1.74%	4.04%	2.85%	4.28%	2.42%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.78%	97.93%	1.29%	0.00%			

### Analysis of mileages in each B/C ratio zone

County: 20 Clarke

Analysis of mileages in each B/C ratio zone		County: Clark																			Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
LOS #	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.8							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0	0.00	0.00%	
11	Paved - 2 lane - Level 3							0.21	6.84	11.34	15.59	4.77	0.49								18.39	20.85	0	0	39.24	5.95%	
10	Paved - 2 lane - Level 2			0.50		0.02	0.86	0.52	0.52			1.00									2.42	1.00	0.00		3.42	0.52%	6.47%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	
7	Hard Surface - Level 1		0.13		0.13	0.07	2.99	1.41													3.32	1.41	0.00		4.73	0.72%	
6	Gravel - Level 3		0.03			2.70	4.67	1.29	2.99	1.49		0.25									0.00	13.17	0.249	0	13.42	2.03%	0.72%
5	Gravel - Level 2		0.83	7.36	13.44	31.41	23.36	20.24	18.81	2.90	0.87	0.01									0.00	115.45	3.78	0	119.24	18.08%	
4	Gravel - Level 1	16.58	60.16	92.66	96.86	77.24	22.19	32.92	1.57	0.73											0.00	398.60	2.30	0	400.90	60.79%	
3	Earth 2 lane	17.01	28.43	7.10	11.59		1.18			0.20											0.00	64.13	1.182	0.199	65.51	9.93%	
2	Earth 1 lane		6.16		1.49		0.29	0.95													0.00	6.16	2.73	0	8.89	1.35%	
1	Unimproved	4.09	0.06																		0.00	4.15	0.00	0	4.15	0.63%	
		37.7	95.8	107.6	123.5	111.4	55.5	57.5	30.7	16.7	16.5	6.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1	624.9	10.2	0.2	659.49		
		5.71%	14.53%	16.32%	18.73%	16.90%	8.42%	8.73%	4.66%	2.53%	2.50%	0.91%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.68%	94.76%	1.55%	0.03%			

### Analysis of mileages in each B/C ratio zone

County: 21 Clay

Analysis of mileages in each B/C ratio zone																				County:		Clay																				
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																						
Min VPD		0	5	13	23	35	52	78	115	175	280	390	580	870	1300	1950	2920	4365	6530	9771																						
Max VPD		5	13	23	35	52	78	115	175	280	390	580	870	1300	1950	2920	4365	6530	9770	14620																						
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	66.5	93.3	140.9	216.2	323.6	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10987.6																						
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total															
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%															
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%																
12	Paved - 3 lane																				0.00	0.00	0.00	0	0.00	0.00%																
11	Paved - 2 lane - Level 3																				8.29	3.08		0	9.38	0.97%	21.42%															
10	Paved - 2 lane - Level 2																				22.08	173.59	0.00		195.67	20.34%																
9	Paved - 2 lane - Level 1																				0.00	1.03	0.00		1.03	0.11%																
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	0.00%															
7	Hard Surface - Level 1																				0.00	0.00	0.00	0	0.00	0.00%																
6	Gravel - Level 3																				0.00	54.46	0		54.46	5.68%																
5	Gravel - Level 2	2.74	54.93	135.06	179.21	163.20	56.57	15.20	6.49	5.84	1.00											0.00	613.41	6.84	0	620.25	64.48%	77.95%														
4	Gravel - Level 1	2.93	22.81	34.03	10.20	3.25	1.11											0.74			0.00	74.32	0.00	0.739	75.06	7.80%																
3	Earth 2 lane																				0.00	2.73	0		2.73	0.28%	0.36%															
2	Earth 1 lane																				0.00	0.72	0.00	0	0.72	0.07%																
1	Unimproved	0.29	1.28	1.03																					0.00	1.57		1.03	0	2.60	0.27%	0.27%										
		6.0	85.1	179.0	202.7	182.2	65.1	26.1	23.8	48.0	26.7	52.3	38.3	14.7	9.1	3.0	0.0	0.0	0.0	0.0	0.0	28.4	924.9	7.9	0.7	961.90																
		0.62%	8.85%	18.61%	21.07%	18.94%	6.77%	2.71%	2.48%	4.99%	2.77%	5.44%	3.99%	1.52%	0.95%	0.31%	0.00%	0.00%	0.00%	0.00%	2.95%	96.16%	0.82%	0.08%																		





Analysis of mileages in each B/C ratio zone																					County: 25 Dallas						
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0.00	0.00	0.00	0.00%	0.23%
13	Paved - 4 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	
12	Paved - 3 lane			0.25							0.07	0.23		1.51							2.08	0.00			2.08	0.23%	
11	Paved - 2 lane - Level 3		0.14				1.04	0.60	1.91	7.81	16.90	39.35	42.07	19.19	8.48	6.31	0.68				11.50	132.96			144.48	16.14%	20.06%
10	Paved - 2 lane - Level 2					0.02		0.52	0.33	0.39	3.15	4.12	0.31	0.05	4.88						0.87	12.90	0.00		13.77	1.54%	
9	Paved - 2 lane - Level 1		0.17				0.01	0.15		6.15	1.51	6.38	3.84	1.08	1.95		0.09				0.33	18.95	2.03		21.31	2.38%	
8	Hard Surface - Level 2																				0.00	0.00	0.00		0.00	0.00%	0.01%
7	Hard Surface - Level 1													0.13							0.00	0.00	0.13		0.13	0.01%	
6	Gravel - Level 3		0.48	2.04	8.51	21.59	18.62	16.77	20.70	7.50	4.02	1.18									0.00	96.21	5.176		101.39	11.33%	
5	Gravel - Level 2	1.78	29.36	54.14	94.50	138.70	92.60	86.24	33.85	16.62	1.28	0.81									0.00	531.17	18.69		549.86	61.45%	78.77%
4	Gravel - Level 1	0.05	13.59	13.86	8.97	6.34	4.13	5.26	1.46												0.00	52.20	1.46		53.66	6.00%	
3	Earth 2 lane	0.78	1.05	0.11																	0.00	1.95	0.00		1.95	0.22%	
2	Earth 1 lane			0.73																	0.00	0.73	0.00		0.73	0.08%	0.30%
1	Unimproved	5.53																			0.00	5.53	0.00		5.53	0.62%	0.62%
		8.1	44.8	71.1	112.0	166.7	116.4	109.5	58.3	38.5	26.9	52.0	46.2	22.0	15.3	6.3	0.8	0.0	0.0	0.0	14.8	852.6	27.5	0.0	894.83		
		0.91%	5.00%	7.95%	12.51%	18.62%	13.01%	12.24%	6.51%	4.30%	3.01%	5.82%	5.16%	2.45%	1.71%	0.70%	0.09%	0.00%	0.00%	0.00%	1.65%	95.28%	3.07%	0.00%			

Analysis of mileages in each B/C ratio zone																					County: 26 Davis						
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0.00	0.00	0.00	0.00%	
13	Paved - 4 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
11	Paved - 2 lane - Level 3				0.07	0.09			2.98	0.53	0.21	1.20	0.59	3.31							3.67	5.31			8.98	1.11%	
10	Paved - 2 lane - Level 2						2.03	1.96	3.98	14.07	13.43	18.14	9.49	6.28		0.86					7.98	62.26	0.00		70.23	8.69%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	9.80%
8	Hard Surface - Level 2							0.11			0.30										0.00	0.41	0.00		0.41	0.05%	
7	Hard Surface - Level 1																				0.00	0.00	0.00		0.00	0.00%	0.05%
6	Gravel - Level 3			0.22	1.00	5.98	5.01	10.35	2.94	3.73	1.12		0.75								0.00	29.23	1.871		31.10	3.85%	
5	Gravel - Level 2	0.47	10.63	28.10	45.54	48.41	41.21	35.01	16.72	4.07		0.06									0.00	226.10	4.13		230.23	28.49%	
4	Gravel - Level 1	1.93	81.01	88.11	100.95	48.06	38.79	14.75	11.61	4.62	1.93										0.00	373.59	18.15		391.75	48.48%	80.82%
3	Earth 2 lane	0.54	52.98	7.70	2.27		0.25														0.00	63.49	0.249		63.74	7.89%	
2	Earth 1 lane	0.04	4.00		0.69																0.00	4.03	0.69		4.72	0.58%	8.47%
1	Unimproved	5.88	0.79	0.19																	0.00	6.67	0.19		6.87	0.85%	0.85%
		8.9	149.4	124.3	150.5	102.5	87.3	62.2	38.2	27.0	17.0	19.4	10.8	9.6	0.0	0.9	0.0	0.0	0.0	0.0	11.6	771.1	25.3	0.0	808.03		
		1.10%	18.49%	15.39%	18.63%	12.69%	10.80%	7.70%	4.73%	3.34%	2.10%	2.40%	1.34%	1.19%	0.00%	0.11%	0.00%	0.00%	0.00%	0.00%	1.44%	95.43%	3.13%	0.00%			

Analysis of mileages in each B/C ratio zone																					County:		27	Decatur			
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
LOS #	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3							2.77	7.50	1.50	32.99	11.23									11.77	44.23		0	55.99	7.21%	
10	Paved - 2 lane - Level 2				2.56	0.90			4.84	10.07	5.45	4.42									8.30	19.95	0.00		28.25	3.64%	12.67%
9	Paved - 2 lane - Level 1				0.25	0.49	0.75	2.13	3.20	3.15	4.23										6.82	7.38	0.00		14.20	1.83%	
8	Hard Surface - Level 2				0.08	0.51	0.49	3.90	6.12	2.43	1.02										0.59	13.98	0		14.55	1.87%	
7	Hard Surface - Level 1	0.25	1.80	0.98	0.04	4.56	1.78	19.37	9.93	2.43	1.44	0.55									9.42	33.71	0.00	0	43.13	5.55%	
6	Gravel - Level 3		0.25	1.52	2.55	4.34	3.50	3.73	2.00	1.16											0.00	19.06	0	0	19.06	2.45%	7.43%
5	Gravel - Level 2	0.04	11.87	32.79	61.77	42.09	19.86	18.02	2.15	0.12											0.00	188.58	0.12	0	188.70	24.29%	
4	Gravel - Level 1	7.56	70.12	78.64	91.57	42.40	19.16	5.80	1.29												0.00	315.24	1.29	0	316.53	40.75%	
3	Earth 2 lane	32.00	19.53	11.51	6.26	2.21	0.75														0.00	69.29	2.962	0	72.25	9.30%	
2	Earth 1 lane	5.64	2.65	1.63	0.29																0.00	9.91	0.29	0	10.21	1.31%	10.61%
1	Unimproved	13.82	0.12																		0.00	13.93	0.00		13.93	1.79%	
		59.3	106.3	127.1	165.4	97.5	46.3	55.7	37.0	20.9	45.1	16.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.9	735.2	4.7	0.0	776.80		
		7.63%	13.69%	16.36%	21.29%	12.55%	5.96%	7.17%	4.77%	2.69%	5.81%	2.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.75%	94.85%	0.60%	0.00%			

### Analysis of mileages in each B/C ratio zone

Analysis of mileages in each B/C ratio zone																											
		County:						Delaware																			
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
LOS #	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Mileage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1561.4	2327.5	3498.6	5290.3	7888.2	10967.6	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0	0.00	0.00%	
11	Paved - 2 lane - Level 3			0.09	0.25	2.02	1.75	4.34	4.65	6.43	22.30	22.50	11.61	5.63	0.92	0.18					19.53	63.14		0	82.67	9.04%	
10	Paved - 2 lane - Level 2		0.31			0.11	1.93	1.45	2.35	7.48	13.71	28.79	16.64	26.34	7.15	3.24	0.15				8.15	103.49	0.00		109.65	11.99%	22.63%
9	Paved - 2 lane - Level 1					0.39		5.50	3.49	3.57	0.75		0.96								9.38	5.28	0.00		14.66	1.60%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	
7	Hard Surface - Level 1							0.21	0.28	1.19		2.54									0.00	4.22	0.00	0	4.22	0.46%	
6	Gravel - Level 3				3.05	5.32	8.93	16.72	8.79	1.60	0.10										0.00	44.42	0.103	0	44.52	4.87%	0.46%
5	Gravel - Level 2	1.03	0.68	17.29	38.21	86.07	56.00	51.54	25.38	3.54	0.10	1.52									0.00	274.20	5.16	0	279.37	30.55%	
4	Gravel - Level 1	6.92	29.79	37.52	71.03	92.49	60.88	48.11	12.96	2.55	0.58	5.08									0.00	346.74	16.08	0.081	362.90	39.69%	
3	Earth 2 lane	2.93	0.31	0.34		0.68															0.00	3.58	0.857	0	4.44	0.49%	
2	Earth 1 lane	0.94	1.13		1.28	0.43															0.00	2.06	1.71	10	3.77	0.41%	0.90%
1	Unimproved	4.48	0.22	1.42	0.59	0.75	0.76														0.00	4.71	2.76	0.758	8.23	0.90%	
		16.3	32.4	56.7	112.4	188.4	130.3	127.9	57.9	26.4	37.5	55.4	29.2	32.0	8.1	3.4	0.1	0.0	0.0	0.0	35.1	851.8	26.7	0.8	914.42		
		1.78%	3.55%	6.20%	12.29%	20.61%	14.25%	13.98%	8.33%	2.88%	4.10%	6.06%	3.19%	3.50%	0.88%	0.37%	0.02%	0.00%	0.00%	0.00%	3.83%	93.16%	2.92%	0.09%			

### Analysis of mileages in each B/C ratio zone

Analysis of mileages in each B/C ratio zone																					County:		29		Des Moines																				
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																									
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771																									
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620																									
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1561.4	2327.5	3488.6	5290.3	7886.2	10967.6																									
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total																		
14	Paved - 4 lane - divided																				0.00	0.00	0.00	0.00	0.00	0.00%																			
13	Paved - 4 lane																				0.00	0.00	0.00	0.00	0.00	0.00%																			
12	Paved - 3 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	0.00%																		
11	Paved - 2 lane - Level 3		0.13	0.03		0.03	0.02	0.39	0.26	3.54	7.09	8.31	7.69	4.94	0.72	1.76					4.40	30.50	0.00	0.00	34.91	5.68%																			
10	Paved - 2 lane - Level 2		0.63	0.45	0.27		0.22	1.16	2.99	7.19	5.99	5.47	19.41	10.61	2.70	3.59	0.38				5.72	55.33	0.00	0.00	61.05	9.73%																			
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00	0.00	0.00	0.00%	15.29%																		
8	Hard Surface - Level 2																				0.00	0.00	0.00	0.00	0.00	0.00%																			
7	Hard Surface - Level 1				0.03																0.00	0.00	0.00	0.00	0.03	0.00%	0.00%																		
6	Gravel - Level 3			0.05	0.03		0.98	1.00	0.21	1.03											0.00	3.31	0.00	0.00	3.31	0.53%																			
5	Gravel - Level 2		0.56	3.13	7.87	26.93	13.96	32.15	16.55	4.77	2.02										0.00	101.15	6.78	0.00	107.93	17.20%																			
4	Gravel - Level 1	16.64	36.18	38.37	44.41	62.29	48.39	52.54	33.68	15.28	2.74			0.05		0.50					0.00	298.83	51.73	0.497	351.06	55.95%	73.68%																		
3	Earth 2 lane	42.27	5.83	5.14	1.09	1.15	0.16	0.60													0.00	54.33	2.114	0.00	56.44	9.00%																			
2	Earth 1 lane	5.74				0.32															0.00	5.74	0.32	0.00	6.05	0.96%	9.96%																		
1	Unimproved	6.48	0.21																		0.00	6.69	0.00	0.00	6.69	1.07%	1.07%																		
		71.1	43.5	47.2	53.7	90.7	63.7	88.0	53.7	31.8	17.8	13.8	27.1	15.6	3.4	5.8	0.4	0.0	0.0	0.0	10.2	555.9	60.9	0.5	627.46																				
		11.33%	6.94%	7.52%	8.56%	14.46%	10.16%	14.03%	8.56%	5.07%	2.84%	2.20%	4.32%	2.48%	0.55%	0.93%	0.08%	0.00%	0.00%	0.00%	1.62%	88.59%	9.71%	0.08%																					

### Analysis of mileages in each B/C ratio zone

Analysis of mileages in each B/C ratio zone																					County:		30		Dickinson																							
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																												
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771																												
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620																												
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6																												
LOS																					Exceeds		Upgrade	Upgrade	LOS	LOS	LOS																					
#																					need	OK	justified	urgent	miles	% of total	% of total																					
14	Paved - 4 lane - divided																				0.00		0.00	0	0	0.00	0.00%	0.00%																				
13	Paved - 4 lane																				0.00	0.00	0.00	0	0	0.00	0.00%																					
12	Paved - 3 lane																				0.00	0.00	0.00	0	0	0.00	0.00%																					
11	Paved - 2 lane - Level 3																				16.98	37.74		0	54.69	8.38%																						
10	Paved - 2 lane - Level 2		0.24	0.16	1.27	1.48	2.25	1.22	4.17	11.13	7.51	1.72	10.74	12.84	3.76	1.17						10.78	95.23	0.00		106.02	16.25%	24.99%																				
9	Paved - 2 lane - Level 1																				1.13	1.21	0.00		2.34	0.36%																						
8	Hard Surface - Level 2																				0.00	1.68	0		1.68	0.26%																						
7	Hard Surface - Level 1	0.17		0.29	0.06	0.16	0.05	0.58	1.17	0.49	0.57	0.50										0.73	3.31	0.00	0	4.04	0.62%																					
6	Gravel - Level 3																				0.00	35.07	0	0	35.07	5.38%	0.88%																					
5	Gravel - Level 2	1.35	12.43	47.00	62.93	84.30	27.77	16.82	6.77	2.38		0.28									0.00	239.36	2.66	0	242.02	37.10%																						
4	Gravel - Level 1	4.77	27.73	63.45	52.58	20.51	6.04	1.77	1.24	1.35											0.00	176.84	2.59	0	179.43	27.50%																						
3	Earth 2 lane	1.01	1.00																		0.00	2.01	0	0	2.01	0.31%		69.98%																				
2	Earth 1 lane		1.94																		0.00	1.94	0.00	0	1.94	0.30%																						
1	Unimproved	19.41	3.73																		0.00	23.14	0.00	0	23.14	3.55%																						
		26.7	47.1	111.8	126.0	93.7	42.1	26.2	25.3	38.6	20.6	31.0	28.7	21.0	10.2	3.5	0.0	0.0	0.0	0.0	29.6	617.5	5.3	0	652.37																							
		4.09%	7.21%	17.14%	19.31%	14.36%	6.45%	4.01%	3.87%	5.92%	3.16%	4.75%	4.39%	3.22%	1.56%	0.53%	0.00%	0.00%	0.00%	0.00%	4.54%	94.66%	0.80%	0.00%																								



Analysis of mileages in each B/C ratio zone																											
		County:																									
		31									Dubuque																
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6							
LOS #																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0.00	0.00	0.00	0.00%	
13	Paved - 4 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
11	Paved - 2 lane - Level 3		0.43		0.09		3.59	1.76	0.89	7.82	4.25	3.81	2.67	0.05	5.52	3.14					14.57	19.43			34.00	4.35%	
10	Paved - 2 lane - Level 2		0.11	0.37	1.21	2.03	1.23	3.57	5.98	15.09	28.85	30.76	27.91	18.48	5.99	7.68	0.81	0.78			14.50	135.56	0.76		150.82	19.31%	
9	Paved - 2 lane - Level 1					0.11		1.35		4.95	2.83	0.69	2.31	7.08	1.00	1.63					1.46	17.86	2.63		21.95	2.81%	26.47%
8	Hard Surface - Level 2		0.11		0.03	0.98	0.59	0.63	4.23	1.47		0.65	2.11	0.10	0.97						1.12	9.78	0.97		11.87	1.52%	
7	Hard Surface - Level 1		0.70	0.63		2.96	8.85	12.64	37.78	22.35	11.60	29.94	12.23	1.29	2.10						13.14	114.30	15.63		143.07	18.32%	19.83%
6	Gravel - Level 3		0.36			0.72	2.26	2.79	3.20	0.45											0.00	9.78	0.00		9.78	1.25%	
5	Gravel - Level 2		1.11	2.47	14.78	18.77	12.77	33.82	18.86	8.95	2.28										0.00	102.59	11.23		113.81	14.57%	
4	Gravel - Level 1		17.95	25.49	35.29	70.56	48.84	58.51	21.71	2.24	0.18										0.00	254.64	24.13		278.78	35.69%	51.51%
3	Earth 2 lane		1.30		0.21	0.22		0.52													0.00	1.51	0.735		2.24	0.29%	
2	Earth 1 lane																				0.00	0.00	0.00		0.00	0.00%	0.29%
1	Unimproved	11.84	0.25		2.24	0.50															0.00	12.09	2.74		14.83	1.90%	1.90%
		11.8	22.3	29.0	53.8	96.9	76.1	115.6	92.6	63.3	50.0	65.8	47.2	27.0	15.6	12.4	0.8	0.8	0.0	0.0	44.8	677.5	58.8	0.0	781.15		
		1.52%	2.86%	3.71%	6.89%	12.40%	9.75%	14.80%	11.86%	8.11%	6.40%	8.43%	6.05%	3.46%	1.99%	1.59%	0.10%	0.10%	0.00%	0.00%	5.73%	86.74%	7.53%	0.00%			







### Analysis of mileages in each B/C ratio zone

Analysis of mileages in each B/C ratio zone																											
		County:						Hamilton																			
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
LOS #	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0.00	0.00	0.00	0.00%	
13	Paved - 4 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
11	Paved - 2 lane - Level 3			0.10			0.12	5.13		7.12	5.28	13.81	0.47	0.31							12.47	19.66	0.00	0.00	32.13	3.56%	
10	Paved - 2 lane - Level 2					0.19	2.06	12.69		31.68	45.80	32.22	19.31	9.09	1.94						14.93	140.03	0.00	0.00	154.97	17.18%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00	0.00	0.00	0.00%	20.74%
8	Hard Surface - Level 2																				0.00	0.00	0.00	0.00	0.00	0.00%	
7	Hard Surface - Level 1			0.44																	0.44	0.00	0.00	0.00	0.44	0.05%	0.05%
6	Gravel - Level 3		0.09	0.44	1.55	2.57	2.14	2.23	0.98			1.01									0.00	10.00	1.013	0.00	11.02	1.22%	
5	Gravel - Level 2	0.65	2.01	14.46	20.63	24.23	24.60	8.38	1.33	1.00											0.00	96.29	1.00	0.00	97.29	10.79%	
4	Gravel - Level 1	15.26	28.99	141.72	219.98	112.00	53.31	28.75	3.19		0.99										0.00	600.01	4.19	0.00	604.19	66.98%	78.99%
3	Earth 2 lane	0.93																			0.00	0.93	0.00	0.00	0.93	0.10%	
2	Earth 1 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	0.10%
1	Unimproved	1.07																			0.00	1.07	0.00	0.00	1.07	0.12%	0.12%
		17.9	31.1	157.2	242.2	138.8	80.4	46.5	18.2	39.8	52.1	46.8	19.8	9.4	1.9	0.0	0.0	0.0	0.0	0.0	27.8	868.0	6.2	0.0	902.03		
		1.99%	3.45%	17.42%	26.85%	15.39%	8.91%	5.16%	2.02%	4.41%	5.77%	5.19%	2.19%	1.04%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	3.09%	96.23%	0.89%	0.00%			

### Analysis of mileages in each B/C ratio zone

Analysis of mileages in each B/C ratio zone		County:																			Hancock						
		Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19						
LOS #	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0	0.00	0.00%	
11	Paved - 2 lane - Level 3	0.18				0.60	0.44	4.30	0.50	14.55	0.55	1.12	5.95	3.54	0.37						20.58	11.53		0	32.11	3.18%	24.18%
10	Paved - 2 lane - Level 2				0.19	0.39	4.35	17.14	31.60	34.47	66.95	21.42	14.68	19.55	0.65						53.68	157.71	0.00		211.39	20.91%	
9	Paved - 2 lane - Level 1				0.44					0.32		0.18									0.44	0.50	0.00		0.94	0.09%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	0.18%
7	Hard Surface - Level 1		0.04	0.48	0.06	0.44		0.14	0.32		0.33										1.01	0.78	0.00	0	1.79	0.18%	
6	Gravel - Level 3				8.06	10.95	10.91	7.88	3.13	1.00	1.00										0.00	41.93	1	0	42.93	4.25%	
5	Gravel - Level 2		2.87	18.49	47.02	58.07	22.02	17.47	1.00	1.04											0.00	166.95	1.04	0	167.98	16.62%	74.30%
4	Gravel - Level 1	7.63	38.74	165.79	202.58	82.23	28.85	7.80	5.38	1.20											0.00	533.61	6.58	0	540.19	53.44%	
3	Earth 2 lane	1.00																			0.00	1.00	0	0	1.00	0.10%	
2	Earth 1 lane	0.46																			0.00	0.46	0.00	0	0.46	0.05%	0.14%
1	Unimproved	11.01	1.07																		0.00	12.08	0.00	0	12.08	1.20%	
		20.3	42.7	184.8	258.4	152.7	66.6	54.7	41.9	52.6	68.8	22.7	20.6	23.1	1.0	0.0	0.0	0.0	0.0	0.0	75.7	926.6	8.6	0.0	1010.87		
		2.01%	4.23%	18.28%	25.56%	15.10%	6.59%	5.41%	4.15%	5.20%	6.81%	2.25%	2.04%	2.28%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	7.49%	91.66%	0.85%	0.00%			

### Analysis of mileages in each B/C ratio zone

Analysis of mileages in each B/C ratio zone																											
		County:																									
		42																		Hardin							
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total	
14	Paved - 4 lane - divided																			0.00	0.00	0	0	0.00	0.00%		
13	Paved - 4 lane																			0.00	0.00	0.00	0	0.00	0.00%		
12	Paved - 3 lane																			0.00	0.00		0	0.00	0.00%	0.00%	
11	Paved - 2 lane - Level 3																			0.10	27.28		0	27.38	2.81%		
10	Paved - 2 lane - Level 2	0.802.218.000.106.073.137.628.311.430.73																		11.00	133.21	0.00		144.21	14.82%		
9	Paved - 2 lane - Level 1																			0.00	1.58	0.00		1.58	0.16%	17.80%	
8	Hard Surface - Level 2																			0.00	0.96	0		0.96	0.10%		
7	Hard Surface - Level 1																			0.71	2.13	0.10	0	2.94	0.30%	0.40%	
6	Gravel - Level 3																			0.00	101.17	1.218	0	102.39	10.52%		
5	Gravel - Level 2																			0.00	545.43	7.68	0	553.11	56.85%		
4	Gravel - Level 1																			0.00	131.88	0.95	0	132.82	13.65%	81.02%	
3	Earth 2 lane																			0.00	4.57	0	0	4.57	0.47%		
2	Earth 1 lane																			0.00	0.05	0.00	0	0.05	0.01%	0.47%	
1	Unimproved																			0.00	2.70	0.25	0	2.95	0.30%	0.30%	
		2.4	79.2	145.4	172.5	183.7	115.6	67.9	28.6	30.1	38.2	42.7	40.5	19.5	5.7	0.7	0.1	0.0	0.0	0.0	11.8	950.9	10.2	0.0	972.95		
		0.24%	8.14%	14.94%	17.73%	18.88%	11.90%	6.98%	2.94%	3.09%	3.93%	4.38%	4.16%	2.00%	0.59%	0.07%	0.01%	0.00%	0.00%	0.00%	1.21%	97.74%	1.05%	0.00%			



Analysis of mileages in each B/C ratio zone																													
		County:					Harrison																						
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19									
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771									
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14820									
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	708.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total		
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%		
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%		0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%			0.00%
11	Paved - 2 lane - Level 3				0.93		0.04	0.50	2.05	11.41	18.47	7.01	0.70								14.93	26.19		0	41.12	3.75%			
10	Paved - 2 lane - Level 2							2.10	1.10		21.37	6.34	9.87								3.20	37.58	0.00		40.78	3.72%	5.18%		
9	Paved - 2 lane - Level 1											0.31	0.72	0.09							0.00	1.12	0.00		1.12	0.10%		5.18%	
8	Hard Surface - Level 2					0.66	1.52	0.51	0.66	2.36	1.72	0.34									0.68	7.11	0		7.77	0.71%			72.45%
7	Hard Surface - Level 1	0.26		0.69	0.88	1.74	2.11	3.13	5.92	13.04	14.70	4.22	2.33								5.68	41.00	2.33	0	48.99	4.47%			
6	Gravel - Level 3		1.04	1.19	2.54	4.82	1.19	9.20	0.99			2.71									0.00	20.96	2.709	0	23.67	2.18%	13.36%		
5	Gravel - Level 2	0.69	26.77	48.33	72.28	105.22	34.25	39.71	28.19	4.10	0.16	0.44									0.00	355.41	4.70	0	360.11	32.85%		1.44%	
4	Gravel - Level 1	8.48	46.30	101.54	93.80	83.56	48.57	19.73	4.89	2.38	0.65	0.50									0.00	401.98	7.92	0.497	410.39	37.44%			1.44%
3	Earth 2 lane	22.27	42.28	43.52	21.96	6.51	1.09														0.00	130.02	7.594	0	137.61	12.55%			
2	Earth 1 lane	3.36	3.72	1.71	0.04																0.00	8.79	0.04	0	8.82	0.80%	1.44%		
1	Unimproved	14.52	0.04	1.25																	0.00	14.56	1.25	0	15.81	1.44%		1.44%	
		49.6	120.1	198.2	192.4	202.5	88.8	74.9	43.8	33.3	57.1	21.9	13.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	24.4	1044.7	26.5	0.5	1096.20				1.44%
		4.52%	10.96%	18.08%	17.55%	18.47%	8.10%	6.83%	4.00%	3.04%	5.21%	1.99%	1.24%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.23%	95.30%	2.42%	0.05%					





Analysis of mileages in each B/C ratio zone																					County:		49		Jackson																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Analysis of mileages in each B/C ratio zone																					County: 55		Kossuth					
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19								
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771								
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620								
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6								
LOS #	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%	
	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%		
	Paved - 3 lane																				0.00	0.00	0	0	0.00	0.00%		
	Paved - 2 lane - Level 3					0.25		0.11	1.04	0.14	1.00	0.08	0.10		0.16						2.54	0.34		0	2.89	0.17%		
	Paved - 2 lane - Level 2					1.07	10.45	4.03	40.22	107.06	120.21	108.83	48.48	28.09	12.99	2.08						162.82	320.68	0.00	0	483.51	29.22%	29.68%
	Paved - 2 lane - Level 1						0.41	1.18			3.03										1.59	3.03	0.00	0	4.62	0.28%		
	Hard Surface - Level 2																				0.00	0.00	0	0	0.00	0.00%	0.03%	
	Hard Surface - Level 1							0.16	0.16				0.16								0.18	0.32	0.00	0	0	0.49		0.03%
	Gravel - Level 3					4.90	4.03	2.00	3.49		1.04										0.00	15.46	0	0	15.46	0.93%	67.97%	
	Gravel - Level 2			6.54	22.82	74.90	62.30	22.49	16.92	0.50											0.00	206.48	0.00	0	206.48	12.48%		
	Gravel - Level 1		6.65	102.32	206.13	314.12	196.06	58.26	13.81	4.34	0.05		0.04								0.00	897.35	4.43	0.851	902.63	54.56%	1.02%	
	Earth 2 lane		4.53	0.69																	0.00	5.22	0	0	5.22	0.32%		
	Earth 1 lane		7.20	2.43	1.00	1.00															0.00	10.62	1.00	0	11.62	0.70%	1.30%	
	Unimproved		18.09	2.64	0.80																0.00	20.74	0.80	0	21.54	1.30%		
			36.5	114.6	230.7	396.2	273.3	88.2	75.6	112.0	125.3	108.9	49.6	28.1	13.2	2.1	0.0	0.0	0.0	0.0	0.0	167.1	1480.2	6.2	0.9	1654.43		
		2.20%	6.93%	13.95%	23.95%	16.52%	5.33%	4.57%	6.77%	7.56%	6.58%	3.00%	1.70%	0.80%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	10.10%	89.47%	0.38%	0.05%				

Analysis of mileages in each B/C ratio zone																				County: 56 Lee							
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1067.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
	Paved - 2 lane - Level 3				0.52	2.04	0.83	0.26	0.56	4.74	2.73	11.58	5.90	11.13	5.69	0.81					8.96	37.80		0	46.76	6.59%	18.14%
	Paved - 2 lane - Level 2		0.25	0.04	0.25	0.28	1.63	1.14	2.00	8.81	8.66	10.70	23.19	17.17	7.87	0.08					5.58	76.48	0.00		82.06	11.56%	
	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
	Hard Surface - Level 2					0.21	0.42	0.17		1.14	0.43		0.14								0.21	2.31	0		2.52	0.36%	3.08%
	Hard Surface - Level 1	0.24	0.43	0.52	0.87	0.16		1.74	1.68	4.85	6.15	2.15	0.35	0.21							2.23	16.57	0.56	0	19.36	2.73%	
	Gravel - Level 3				0.71			2.38	2.77	3.74		0.58									0.00	9.60	0.578	0	10.18	1.43%	76.64%
	Gravel - Level 2	0.17	1.94	5.14	24.31	27.40	36.98	57.62	26.64	14.73	4.95	0.97	0.06								0.00	180.20	20.71	0	200.91	28.29%	
	Gravel - Level 1	0.82	30.05	31.91	69.94	63.51	39.11	51.41	26.64	13.81	2.67		1.72	1.55							0.00	286.74	44.67	7.721	333.13	46.91%	
	Earth 2 lane		5.18	0.92	0.30		0.02														0.00	6.40	0.019	0	6.42	0.90%	1.25%
	Earth 1 lane	0.43	1.68		0.33																0.00	2.11	0.33	0	2.44	0.34%	
	Unimproved	2.35	2.86	0.58	0.54																0.00	5.21	1.12	0	6.33	0.89%	
			4.0	42.4	39.1	97.8	93.6	79.0	114.7	60.3	51.8	25.6	27.7	31.2	28.5	13.6	0.9	0.0	0.0	0.0	0.0	17.0	623.4	68.0	1.7	710.10	
		0.56%	5.97%	5.51%	13.77%	13.18%	11.12%	16.16%	8.49%	7.30%	3.60%	3.90%	4.39%	4.02%	1.91%	0.13%	0.00%	0.00%	0.00%	0.00%	2.39%	87.79%	9.57%	0.24%			

Analysis of mileages in each B/C ratio zone																					County:		57	Linn			
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
LOS #	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.03%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane													0.07		0.12	0.07	0.12			0.19	0.19	0	0	0.38	0.03%	
11	Paved - 2 lane - Level 3		1.85	0.26		0.12	0.09	0.45		0.36	0.98	7.32	5.39	13.12	2.93	4.72	2.42	1.15	0.36		3.13	38.38		0	41.51	3.55%	21.12%
10	Paved - 2 lane - Level 2		1.90	0.79	1.37	1.68	2.47	6.20	3.18	7.83	6.89	15.25	39.77	39.91	21.40	23.76	5.58	9.50	4.54		17.59	160.39	14.04	0	192.01	16.40%	
9	Paved - 2 lane - Level 1		3.27	0.89	0.81	1.57	0.43		0.04		1.07	2.99	0.42	1.93		0.34					7.00	6.41	0.34	0	13.75	1.17%	3.85%
8	Hard Surface - Level 2			0.22	0.23	1.88		1.71	1.80	5.17	3.75	3.97	4.81	0.31	2.26	0.46					2.33	21.52	2.724	0	26.57	2.27%	
7	Hard Surface - Level 1		0.33	0.39	0.05	1.26	0.13	2.81	0.99	1.76	6.92	1.08	1.21		1.57						2.16	13.56	2.78	0	18.50	1.58%	
6	Gravel - Level 3					0.03		0.83	0.66	0.97											0.00	2.49	0	0	2.49	0.21%	72.25%
5	Gravel - Level 2		9.22	23.40	45.89	67.32	58.70	107.69	64.06	43.33	10.30	1.11	1.43			1.18	0.32				0.00	376.27	56.17	1412	433.86	37.06%	
4	Gravel - Level 1		23.55	32.16	82.56	83.23	74.48	62.69	34.59	11.00	3.29	1.93									0.00	358.67	48.88	1932	409.48	34.98%	
3	Earth 2 lane		10.20	2.57	1.04	3.11	0.76	0.59		0.31	0.50										0.00	13.81	4.457	0.808	19.08	1.63%	1.70%
2	Earth 1 lane					0.87															0.00	0.00	0.87	0	0.87	0.07%	
1	Unimproved	12.04	0.05	0.08	0.04			0.05													0.00	12.09	0.12	0.05	12.26	1.05%	
		12.0	50.4	60.8	132.0	161.1	137.1	183.0	105.3	70.7	33.7	33.6	53.0	55.3	26.6	31.7	8.7	10.8	4.9	0.0	32.4	1003.8	130.4	4.2	1170.76		
		1.03%	4.30%	5.19%	11.27%	13.76%	11.71%	15.63%	9.00%	6.04%	2.88%	2.87%	4.53%	4.73%	2.27%	2.71%	0.75%	0.92%	0.42%	0.00%	2.77%	85.74%	11.14%	0.36%			





### Analysis of mileages in each B/C ratio zone

Analysis of mileages in each B/C ratio zone																											
		County:																									
		61 Madison																									
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	218.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS																					Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
#																											
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3																				1.53	49.03		0	50.56	5.56%	
10	Paved - 2 lane - Level 2																				3.31	42.91	0.00		46.22	5.08%	10.64%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	
7	Hard Surface - Level 1																				0.00	0.03	0.00	0	0.03	0.00%	
6	Gravel - Level 3																				0.00	104.57	7.791	9	112.38	12.35%	83.57%
5	Gravel - Level 2	0.57	14.81	38.33	78.06	98.44	47.65	40.73	14.33	9.37	3.14	1.85									0.00	332.92	14.36	0	347.28	38.17%	
4	Gravel - Level 1	6.33	53.28	66.32	82.68	53.96	21.13	12.64	3.89	0.47											0.00	296.34	4.36	0	300.69	33.05%	
3	Earth 2 lane	16.84	11.89	4.04	3.21	0.71																0.00	35.98	0.708	0	36.69	
2	Earth 1 lane	0.44	0.20	0.17																		0.00	0.80	0.00	0	0.80	0.09%
1	Unimproved	11.39	1.93	0.82	1.09																	0.00	13.31	1.91	0	15.23	1.67%
		35.6	83.6	111.6	179.0	176.2	87.1	75.5	31.7	24.8	25.6	41.2	31.0	3.6	2.6	0.0	0.9	0.0	0.0	0.0	0.0	4.8	875.9	29.1	0	909.85	
		3.91%	9.18%	12.27%	19.67%	19.37%	9.58%	8.30%	3.49%	2.72%	2.81%	4.52%	3.41%	0.39%	0.28%	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	0.53%	96.27%	3.20%	0.00%		

### Analysis of mileages in each B/C ratio zone

Analysis of mileages in each B/C ratio zone																											
		County:						Mahaska																			
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
LOS #	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14820							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1067.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0	0	0.00	0.00%	
11	Paved - 2 lane - Level 3	0.52		0.90	0.59	0.27	2.78	1.08	3.49	8.58	12.47	13.26	13.57			0.87					18.21	40.16	0	0	58.37	8.00%	
10	Paved - 2 lane - Level 2					0.31		0.18	0.06	11.57	2.12	14.76	10.17	6.97							0.55	45.59	0.00	0	46.14	4.75%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00	0	0.00	0.00%	10.75%
8	Hard Surface - Level 2																				0.00	0.00	0	0	0.00	0.00%	
7	Hard Surface - Level 1																				0.00	0.00	0.00	0	0.00	0.00%	0.00%
6	Gravel - Level 3	0.20	0.46	1.03	0.96	3.85	2.68	1.54	3.06	2.89											0.20	16.47	0	0	16.67	1.71%	
5	Gravel - Level 2	1.64	5.77	27.79	65.58	104.49	94.77	80.91	38.56	10.74		0.55									0.00	419.71	11.29	0	431.00	44.34%	84.49%
4	Gravel - Level 1	21.38	42.12	88.11	82.17	67.93	44.17	15.94	11.04	0.50	0.32										0.00	361.81	11.86	0	373.67	38.44%	
3	Earth 2 lane	9.66	11.18	5.00	2.13					0.29											0.00	27.96	0	10.292	28.25	2.91%	
2	Earth 1 lane	3.04	0.15	0.03	0.56			0.08													0.00	3.22	0.64	0	3.86	0.40%	
1	Unimproved	12.73	0.68	0.23							0.51										0.00	13.41	0.23	0.51	14.15	1.46%	1.46%
		49.4	60.4	123.1	152.0	176.9	144.4	99.7	56.2	34.6	15.4	28.6	23.7	7.0	0.0	0.9	0.0	0.0	0.0	0.0	19.0	928.3	24.0	0.8	972.11		
		5.08%	6.21%	12.66%	15.53%	18.19%	14.88%	10.26%	5.78%	3.56%	1.59%	2.94%	2.44%	0.72%	0.00%	0.09%	0.00%	0.00%	0.00%	0.00%	1.95%	95.50%	2.47%	0.08%			

### Analysis of mileages in each B/C ratio zone

		Analysis of mileages in each B/C ratio zone																									
		County: 63										Marion															
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.08%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane														0.68						0.68	0.00		0	0.68	0.08%	
11	Paved - 2 lane - Level 3		0.39		0.25	0.43	0.50			3.45	11.71	5.61	14.11	14.45	2.83	4.10	1.76				5.01	54.56		0	59.58	6.94%	12.78%
10	Paved - 2 lane - Level 2				0.15		0.58		0.52	4.33	6.37	2.81	7.12	11.74	4.05	3.81	4.48	0.81			1.25	44.70	0.81		46.77	5.45%	
9	Paved - 2 lane - Level 1			0.19				0.52	1.22	0.76		0.32		0.26							1.93	1.34	0.00		3.27	0.36%	
8	Hard Surface - Level 2									1.67	1.18	0.24	0.26								0.00	3.34	0		3.34	0.39%	3.26%
7	Hard Surface - Level 1		0.45	1.44	1.48	1.89	3.48	1.70	3.20	3.85	5.54	1.11	0.45								8.74	15.41	0.45	0	24.60	2.87%	
6	Gravel - Level 3			0.75	6.72	5.55	6.99	11.97	8.67	7.39											0.00	48.03	0	0	48.03	5.60%	
5	Gravel - Level 2		1.81	5.54	9.86	21.03	10.63	19.91	15.67	11.92	1.12	2.08	0.22	1.08							0.00	84.45	16.41	0	100.86	11.76%	78.58%
4	Gravel - Level 1	3.40	35.52	73.37	114.58	116.15	76.29	66.75	20.08	13.30	0.55	2.70	1.26	1.36							0.00	486.06	36.52	2.696	525.28	61.23%	
3	Earth 2 lane	9.89	10.31	15.57	1.60	1.67		0.25	0.08												0.00	37.37	2.201	0	39.57	4.61%	
2	Earth 1 lane	1.00		1.13																	0.00	2.13	0.00	0	2.13	0.25%	4.86%
1	Unimproved	3.84																			0.00	3.84	0.00	0	3.84	0.45%	
		18.1	48.5	98.0	134.6	146.9	98.5	101.1	49.4	46.7	26.4	14.9	23.4	28.9	7.6	7.9	6.2	0.8	0.0	0.0	17.6	781.2	56.4	2.7	857.93		
		2.11%	5.65%	11.42%	15.69%	17.12%	11.48%	11.78%	5.76%	5.44%	3.08%	1.73%	2.73%	3.37%	0.88%	0.92%	0.73%	0.09%	0.00%	0.00%	2.05%	91.06%	8.57%	0.31%			

Analysis of mileages in each B/C ratio zone																												
		County: 64 Marshall																										
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19								
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771								
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620								
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6								
LOS	#																			Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total		
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%	
13	Paved - 4 lane																				0.00	0.00	0.00	0	0	0.00		0.00%
12	Paved - 3 lane																				0.00	0.00		0	0	0.00		0.00%
11	Paved - 2 lane - Level 3					0.37		1.02	2.37	0.40	6.53	2.45		0.75	2.01		0.65				4.16	12.39		0	0	16.55	1.78%	20.39%
10	Paved - 2 lane - Level 2		0.30		0.07	0.79	0.91	3.11	4.49	6.54	30.21	43.00	30.93	35.67					0.43		9.67	162.57	0.43		0	172.68	18.61%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0	0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0	0.00	0.00%	0.21%
7	Hard Surface - Level 1											0.49			0.25						0.00	1.75	0.25		0	1.99	0.21%	
6	Gravel - Level 3		0.44		0.83	3.00	1.68	9.23	2.09	0.88											0.00	18.16	0		0	18.16	1.96%	
5	Gravel - Level 2		6.30	14.12	31.58	26.00	28.38	24.67	8.80	0.52	1.51										0.00	139.85	2.03		0	141.88	15.29%	76.58%
4	Gravel - Level 1		50.19	100.40	157.92	103.17	62.47	52.03	17.98	2.04	3.85			0.69							0.00	526.18	24.56		0	550.74	59.34%	
3	Earth 2 lane		14.12	6.07	0.66																0.00	20.85	0		0	20.85	2.25%	
2	Earth 1 lane																				0.00	0.00	0.00		0	0.00	0.00%	2.25%
1	Unimproved	4.58	0.68																		0.00	5.26	0.00		0	5.26	0.57%	
		4.6	72.0	120.6	191.1	133.3	93.4	90.1	37.0	10.4	42.1	45.9	30.9	37.1	14.1	1.0	4.1	0.0	0.4	0.0	13.8	887.0	27.3		0	928.11		
		0.49%	7.76%	12.99%	20.59%	14.37%	10.07%	9.70%	3.99%	1.12%	4.54%	4.95%	3.33%	4.00%	1.52%	0.11%	0.44%	0.00%	0.05%	0.00%	1.49%	95.57%	2.94%	0.00%				

Analysis of mileages in each B/C ratio zone																											
		County: 65 Mills																									
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS	#																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3	0.28	0.69		0.04				0.84	4.64	9.80	8.58	7.55	0.22							6.49	26.14		0	32.63	5.00%	
10	Paved - 2 lane - Level 2		0.09		0.13	0.42		0.38		3.57	2.45	4.77	7.35	0.25	0.18							1.02	18.57	0.00		19.59	3.00%
9	Paved - 2 lane - Level 1			0.18			0.30	0.51		0.60					0.66							0.99	0.60	0.66		2.25	0.34%
8	Hard Surface - Level 2							0.63	5.32	1.52	0.22											0.00	7.89	0		7.89	1.21%
7	Hard Surface - Level 1			0.11	2.00	1.55	2.01	10.73	12.37	16.11	16.06	4.87	1.96	1.40								5.67	60.12	3.37	0	69.16	10.59%
6	Gravel - Level 3				1.89	0.19		0.23		0.83												0.00	2.31	0.827	0	3.14	0.48%
5	Gravel - Level 2	0.37	6.18	8.86	29.08	33.87	25.27	15.98	3.95	2.57		0.16										0.00	123.56	2.73	0	126.29	19.34%
4	Gravel - Level 1	8.71	37.83	51.79	70.53	58.39	32.81	30.17	16.86	6.09	0.59	1.07										0.00	290.03	24.61	0	316.01	48.40%
3	Earth 2 lane	8.74	30.37	21.60	10.57	1.18	0.25		0.35		0.28											0.00	71.27	1.774	0.28	73.33	11.23%
2	Earth 1 lane	0.21	1.00	0.43		0.17																0.00	1.64	0.17	0	1.81	0.28%
1	Unimproved	0.52	0.32																			0.00	0.84	0.00	0	0.84	0.13%
		18.8	76.5	83.0	114.2	95.8	60.4	58.8	39.7	35.1	30.2	19.7	16.9	2.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	14.2	603.0	34.1	1.6	652.92	
		2.89%	11.71%	12.71%	17.49%	14.67%	9.26%	9.01%	6.08%	5.38%	4.63%	3.02%	2.58%	0.45%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.17%	92.35%	5.23%	0.25%		

Analysis of mileages in each B/C ratio zone																													
		County: 66 Mitchell																											
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19									
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771									
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620									
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6									
LOS	#																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total		
	14	Paved - 4 lane - divided																			0.00	0.00	0	0	0.00	0.00%	0.00%		
	13	Paved - 4 lane																			0.00	0.00	0.00	0	0	0.00		0.00%	
	12	Paved - 3 lane																			0.00	0.00		0	0	0.00		0.00%	
	11	Paved - 2 lane - Level 3								0.38	5.88	13.38	3.16	2.97	1.67						0.38	27.06		0	0	27.44		3.54%	
	10	Paved - 2 lane - Level 2				0.11	0.10	0.69	1.13	4.39	17.69	17.59	35.78	21.98	14.23		0.21					6.42	107.48	0.00		0	113.91	14.71%	
	9	Paved - 2 lane - Level 1									0.73										0.00	0.73	0.00			0	0.73	0.09%	
	8	Hard Surface - Level 2						1.00	0.08												0.00	1.08	0			0	1.08	0.14%	
	7	Hard Surface - Level 1		0.03	0.03	2.08	0.93	0.07	3.42	5.75	0.94	2.41		0.07							3.14	12.52	0.07		0	0	15.73	2.03%	
	6	Gravel - Level 3		4.77	11.24	46.05	54.24	44.00	25.38	10.83	0.37	0.33									0.00	196.87	0.329		0	0	197.19	25.47%	
	5	Gravel - Level 2	0.37	12.38	22.95	63.21	76.79	26.46	24.00	3.10	0.94										0.00	229.27	0.94		0	0	230.21	29.73%	
	4	Gravel - Level 1	1.17	8.14	24.26	53.61	54.50	21.90	13.36	2.49	1.26										0.00	176.93	3.74		0	0	180.68	23.33%	
	3	Earth 2 lane	3.55	0.03		0.77															0.00	4.35	0		0	0	4.35	0.56%	
	2	Earth 1 lane					0.45														0.00	0.00	0.45		0	0	0.45	0.06%	
	1	Unimproved	2.54																		0.00	2.54	0.00		0	0	2.54	0.33%	
			7.6	25.3	58.5	165.8	186.6	93.6	68.3	26.6	21.6	26.9	49.2	25.2	17.2	1.7	0.2	0.0	0.0	0.0	0.0	9.9	758.8	5.5	0.0	0	0	774.29	
			0.99%	3.27%	7.55%	21.42%	24.09%	12.08%	8.82%	3.44%	2.79%	3.48%	6.35%	3.26%	2.22%	0.22%	0.03%	0.00%	0.00%	0.00%	0.00%	1.28%	98.00%	0.71%	0.00%				









### Analysis of mileages in each B/C ratio zone

County: 73 Page       

Analysis of mileages in each B/C Ratio zone																				County:		Page:					
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
LOS #	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	218.2	323.8	479.8	708.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0	0.00	0.00%	0.00%
11	Paved - 2 lane - Level 3	0.17			0.03		0.09	0.05	1.42	4.40	12.28	36.25	7.19			0.40					6.18	56.12		0	62.28	6.72%	
10	Paved - 2 lane - Level 2							0.67	0.57	0.66	8.71	18.26	6.44			0.66					1.24	34.72	0.00		35.96	3.88%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	10.60%
8	Hard Surface - Level 2				0.79	0.25	3.51	3.14	7.77	11.19	5.23	0.24									1.04	31.08	0		32.12	3.47%	
7	Hard Surface - Level 1	0.23	0.30	0.03	0.19	1.06	8.75	24.12	22.72	18.50	1.68	1.25									10.55	68.26	0.00	0	78.81	8.51%	11.97%
6	Gravel - Level 3				2.00			1.00													0.00	3.00	0	0	3.00	0.32%	
5	Gravel - Level 2		10.67	19.43	34.54	41.19	33.66	28.31	7.06		0.29										0.00	174.86	0.29	0	175.15	18.90%	
4	Gravel - Level 1	2.30	53.89	80.86	105.77	86.15	26.80	16.14	1.22												0.00	371.92	1.22	0	373.14	40.27%	59.49%
3	Earth 2 lane	1.58	72.99	40.85	33.62	8.00	0.99														0.00	149.04	8.987	0	158.03	17.05%	
2	Earth 1 lane	0.10	2.04	0.24																	0.00	2.38	0.00	0	2.38	0.26%	17.31%
1	Unimproved	3.52	2.27																		0.00	5.79	0.00	0	5.79	0.63%	0.63%
		7.9	142.2	141.4	176.9	136.6	73.8	73.4	40.8	34.7	28.2	56.0	13.6	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.00	897.2	10.5	0	926.65		
		0.85%	15.34%	15.26%	19.09%	14.75%	7.96%	7.92%	4.40%	3.75%	3.04%	6.04%	1.47%	0.00%	0.07%	0.04%	0.00%	0.00%	0.00%	0.00%	2.05%	96.82%	1.13%	0.00%			

### Analysis of mileages in each B/C ratio zone

County: 74 Palo Alto

Analysis of mileages in each B/C Ratio zone		County: Palo Alto																			Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total	
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19								
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771								
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620								
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6								
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%	
13	Paved - 4 lane																				0.00	0.00	0.00	0	0	0.00		0.00%
12	Paved - 3 lane																				0.00	0.00	0.00	0	0	0.00		0.00%
11	Paved - 2 lane - Level 3				1.01	3.07	1.19	6.86	14.55	44.10	26.65	36.11	17.33	1.48							70.78	85.57	0	0	156.35	16.54%	18.23%	
10	Paved - 2 lane - Level 2									7.03	2.04	2.24	1.54								0.00	12.84	0.00	0	0	12.84		1.36%
9	Paved - 2 lane - Level 1				1.96		0.27	0.96													3.19	0.00	0.00	0	0	3.19		0.34%
8	Hard Surface - Level 2																				0.00	0.00	0	0	0.00	0.00%	0.04%	
7	Hard Surface - Level 1						0.24				0.10										0.24	0.10	0.00	0	0	0.34		0.04%
6	Gravel - Level 3			2.97	1.00	2.52	5.62	7.23	2.16	0.47											0.00	21.98	0	0	21.98	2.32%		
5	Gravel - Level 2	4.48	49.31	101.98	196.60	117.50	65.51	34.21	13.56	0.49		0.08									0.00	583.15	0.57	0	0	583.72	61.74%	81.27%
4	Gravel - Level 1	6.16	18.86	43.54	48.62	32.14	7.30	5.06		1.00											0.00	161.67	1.00	0	0	162.67	17.21%	
3	Earth 2 lane																				0.00	0.00	0	0	0.00	0.00%		
2	Earth 1 lane																				0.00	0.00	0.00	0	0	0.00	0.00%	0.00%
1	Unimproved	4.37																			0.00	4.37	0.00	0	0	4.37	0.46%	
		15.0	68.2	148.5	249.2	155.2	80.1	54.3	30.3	53.1	30.8	40.4	18.9	1.5	0.0	0.0	0.0	0.0	0.0	0.0	74.2	869.7	1.6	10.0	945.47			
		1.59%	7.21%	15.71%	26.36%	16.42%	8.48%	5.74%	3.20%	5.62%	3.26%	4.28%	2.00%	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.85%	91.98%	0.17%	0.00%				

### Analysis of mileages in each B/C ratio zone

**County:** **75** **Plymouth**

Analysis of mileages in each B/C ratio zone																					County: 75		Plymouth																				
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771																							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620																							
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	218.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6																							
LOS	#																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total																
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%																
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%																	
12	Paved - 3 lane																				0.00	0.00	0.00	0	0.00	0.00%																	
11	Paved - 2 lane - Level 3		1.00	0.60	0.52	0.64		5.14	16.16	12.70	7.58	12.55	16.34	6.18	3.54	0.93					38.76	47.11		0	83.87	5.89%																	
10	Paved - 2 lane - Level 2		0.84	0.30		2.05	1.57	23.97	28.99	70.65	52.55	62.65	28.18	0.83	0.37							57.72	215.24	0.00		272.95	19.15%	25.04%															
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00	0	0.00	0.00%																	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	0.07%																
7	Hard Surface - Level 1																				0.00	0.96	0.00		0.96	0.07%																	
6	Gravel - Level 3		1.78	7.57	9.00	10.51	7.40	0.96	4.48	1.50	0.91	0.16									0.00	43.14	0.162	0	43.30	3.04%	71.54%																
5	Gravel - Level 2	3.95	70.58	159.68	229.23	140.45	53.49	37.67	11.86	4.49	1.68		0.04								0.00	706.91	6.21	0	713.11	50.04%																	
4	Gravel - Level 1	0.73	41.66	71.04	86.14	43.49	10.34	3.16	3.73		2.77										0.00	256.55	6.50	0	263.05	18.46%																	
3	Earth 2 lane	14.51	16.22	6.08	1.57	0.50	0.89														0.00	38.38	1.386	0	39.77	2.79%																	
2	Earth 1 lane																				0.00	0.00	0.00	0	0.00	0.00%	2.79%																
1	Unimproved	4.39	2.23	1.02	0.34																0.00	6.62	1.36	0	7.98	0.56%																	
		23.6	134.3	246.3	326.8	197.6	73.7	75.4	62.2	88.8	64.7	75.2	44.6	7.0	3.9	0.9	0.0	0.0	0.0	0.0	94.5	1314.9	15.6	0	1424.99																		
		1.65%	9.42%	17.28%	22.93%	13.87%	5.17%	5.29%	4.37%	6.23%	4.54%	5.28%	3.13%	0.49%	0.27%	0.06%	0.00%	0.00%	0.00%	0.00%	6.63%	92.27%	1.10%	0.00%																			

Analysis of mileages in each B/C ratio zone																					
		County: 76 Pocahontas																			
		Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
		Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
LOS #	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6	
14	Paved - 4 lane - divided																				
13	Paved - 4 lane																				
12	Paved - 3 lane																				
11	Paved - 2 lane - Level 3		0.03			0.15	2.91	10.67	18.42	30.06	24.83	27.49	7.74	0.34		0.17					
10	Paved - 2 lane - Level 2							0.08			6.08	21.77	26.89	0.17							
9	Paved - 2 lane - Level 1											0.09									
8	Hard Surface - Level 2																				
7	Hard Surface - Level 1																				
6	Gravel - Level 3			1.96	3.50	7.50	5.51	3.13	0.50												
5	Gravel - Level 2			18.89	72.33	136.40	90.96	41.59	9.93	2.56		0.03	0.61								
4	Gravel - Level 1		0.24	48.03	106.93	164.64	65.20	16.03	4.19	0.34		0.38									
3	Earth 2 lane		2.24	10.97	1.01																
2	Earth 1 lane		1.00	2.00																	
1	Unimproved		0.86	2.77																	
		4.3	82.7	182.2	304.5	163.8	66.0	28.0	21.8	30.1	31.3	50.0	34.6	0.5	0.0	0.2	0.0	0.0	0.0	0.0	
		0.43%	8.27%	18.22%	30.45%	16.38%	8.60%	2.80%	2.18%	3.01%	3.13%	4.99%	3.46%	0.05%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	



Analysis of mileages in each B/C ratio zone																					County: 79 Poweshiek		
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771			
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620			
Average weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6			
LOS	#	14	13	12	11	10	9	8	7	6	5	4	3	2	1	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total	
	14	Paved - 4 lane - divided														0.00	0.00	0	0	0.00	0.00%	0.00%	
	13	Paved - 4 lane														0.00	0.00	0.00	0	0.00	0.00%		
	12	Paved - 3 lane														0.00	0.00		0	0.00	0.00%		
	11	Paved - 2 lane - Level 3				0.15	2.03		3.53	4.11	8.85	19.77	18.31	9.84	3.93	2.51				0	73.04	7.53%	
	10	Paved - 2 lane - Level 2								1.93	7.41	4.03	12.49							25.85	2.67%	10.20%	
	9	Paved - 2 lane - Level 1																		0.00	0.00%		
	8	Hard Surface - Level 2									0.09									0.09	0.01%		
	7	Hard Surface - Level 1		0.45						3.98	2.78	2.04	0.48	0.20						9.26	1.02%		
	6	Gravel - Level 3			0.22	0.11	2.20		3.08	6.90	0.50	1.13								13.01	1.48%	75.53%	
	5	Gravel - Level 2	2.69	24.27	60.70	115.19	95.96	69.99	39.57	8.79	0.87									417.18	43.10%		
	4	Gravel - Level 1	8.54	37.38	56.17	71.96	65.05	27.17	29.42	3.49	1.26									295.68	30.98%		
	3	Earth 2 lane	29.15	45.31	29.85	10.59	4.78	0.21												114.91	12.36%		
	2	Earth 1 lane		0.15																0.15	0.02%	12.38%	
	1	Unimproved	6.78	1.60																8.37	0.86%		
			47.2	109.2	146.9	198.0	170.0	100.4	72.5	27.3	16.2	30.3	22.8	22.5	3.9	2.5	0.0	0.0	0.0	0.0	969.89		
			4.86%	11.25%	15.15%	20.41%	17.53%	10.36%	7.48%	2.82%	1.67%	3.13%	2.35%	2.32%	0.41%	0.26%	0.00%	0.00%	0.00%	0.00%	1.97%	96.80%	1.23%

Analysis of mileages in each B/C ratio zone																					County:		80	Ringgold					
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19									
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771									
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620									
Average weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6									
LOS	#																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total		
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%		
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%			
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%			
11	Paved - 2 lane - Level 3																				9.99	11.07		0	21.06	2.34%			
10	Paved - 2 lane - Level 2																												
9	Paved - 2 lane - Level 1																												
8	Hard Surface - Level 2																												
7	Hard Surface - Level 1																												
6	Gravel - Level 3																												
5	Gravel - Level 2																												
4	Gravel - Level 1																												
3	Earth 2 lane																												
2	Earth 1 lane																												
1	Unimproved																												
		47.6	230.1	167.8	171.3	58.7	42.5	58.7	36.7	38.4	37.2	1.0	9.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0									
		5.29%	25.59%	18.66%	19.05%	8.52%	4.72%	6.53%	4.08%	4.27%	4.14%	0.11%	1.03%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%									
		2.85%	95.50%	1.80%	0.05%																								

Analysis of mileages in each B/C ratio zone																					County:		81	Sac			
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
Average weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS	#																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3																				50.57	45.36		0	95.93	9.40%	
10	Paved - 2 lane - Level 2																				8.11	83.43	0.00		91.54	8.97%	18.37%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.52	0		0.52	0.05%	
7	Hard Surface - Level 1																				0.40	0.06	0.00	0	0.46	0.04%	
6	Gravel - Level 3	0.14	1.00	8.02	1.91	3.88	1.99	3.41	0.50	0.97											0.00	20.71	0	0	20.71	2.03%	79.05%
5	Gravel - Level 2	17.23	85.38	181.04	132.99	53.13	15.83	2.69	0.97											0.00	488.43	0.97	0	489.40	47.95%		
4	Gravel - Level 1	22.46	70.14	106.60	70.97	19.67	6.49	0.46	0.04											0.00	296.32	0.50	0	296.82	29.08%		
3	Earth 2 lane	2.01	13.78	3.69	2.30											0.00	21.78	0	0	21.78	2.13%						
2	Earth 1 lane																				0.00	0.93	0.00	0	0.93	0.09%	2.22%
1	Unimproved	1.66	1.00											0.00	2.66	0.00	0	2.66	0.26%								
		3.8	56.4	159.2	298.0	206.3	81.5	35.6	24.4	31.3	40.5	53.1	24.8	5.3	0.5	0.0	0.0	0.0	0.0	0.0	59.1	960.2	1.5	0.0	1020.76		
		0.37%	5.53%	15.60%	29.19%	20.21%	7.99%	3.48%	2.39%	3.07%	3.96%	5.20%	2.43%	0.52%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	5.79%	94.07%	0.14%	0.00%			





Analysis of mileages in each B/C ratio zone																				County: 85		Story																										
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																												
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771																												
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620																												
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6																												
LOS #	Paved - 4 lane - divided																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total																					
	Paved - 4 lane																				0.00	0.00	0.00	0	0	0.00			0.00%																			
	Paved - 3 lane																				0.00	0.00	0.00	0	0	0.00			0.00%																			
	Paved - 2 lane - Level 3													0.40						0.48	0.40	0.48	0	0	0.88	0.09%																						
	Paved - 2 lane - Level 2							1.43	2.00	1.91	1.35	17.01	11.03	11.38	5.11	3.16			0.58		5.34	49.62		0	54.97	5.82%																						
	Paved - 2 lane - Level 1				0.17		0.23	2.21	7.91	10.16	12.13	18.68	35.31	26.26	17.75	7.15	4.08		2.71		10.51	129.51	2.71		142.74	15.11%																						
	Hard Surface - Level 2																				0.00	0.00	0.00		0.00	0.00%																						
	Hard Surface - Level 1							2.47				1.00		0.30	0.93	1.08	0.21				0.00	4.70	1.273		5.98	0.63%																						
	Gravel - Level 3						0.28	0.25					0.89		0.66						0.53	0.89	0.66	0	2.08	0.22%																						
	Gravel - Level 2		1.81	4.53	7.29	13.04	9.23	12.23	6.78	3.95	3.27	1.54		0.11	0.62						0.00	58.85	5.536	0	64.39	6.82%																						
	Gravel - Level 1	4.89	30.12	105.67	130.80	179.02	92.86	55.30	14.79	7.40	2.12	0.50	0.13								0.00	613.44	10.15	0.081	623.67	66.02%																						
	Earth 2 lane	1.97	5.11	5.09	1.68	2.28	2.64	4.39			0.62			0.20							0.00	23.16	0.82	0	23.98	2.54%																						
	Earth 1 lane	8.45	12.03	4.44																	0.00	24.92	0	0	24.92	2.64%																						
	Unimproved	0.48	0.40																		0.00	0.20	0.00	0	0.20	0.02%																						
		15.8	49.7	119.7	139.9	194.6	105.2	78.0	31.5	23.4	20.5	36.6	47.2	39.5	24.5	10.6	4.1	3.3	0.5	0.0	16.8	906.7	21.1	0.1	944.67																							
		1.67%	5.26%	12.67%	14.81%	20.60%	11.14%	8.26%	3.33%	2.48%	2.17%	3.88%	4.99%	4.19%	2.60%	1.12%	0.43%	0.35%	0.05%	0.00%	1.78%	95.98%	2.24%	0.01%																								

Analysis of mileages in each B/C ratio zone																					County: 86		Tama																
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																			
Min VPD		0		13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771																			
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620																			
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6																			
LOS #	Paved - 4 lane - divided																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total												
	Paved - 4 lane																				0.00	0.00	0	0	0.00	0.00%													
	Paved - 3 lane																				0.00	0.00	0	0	0.00	0.00%													
	Paved - 2 lane - Level 3																				0.00	0.00	0	0	0.00	0.00%													
	Paved - 2 lane - Level 2		0.07			0.03	0.39	0.89	3.14	1.24	8.36	2.28	2.39	0.58							1.24	13.62		0	14.86	1.28%													
	Paved - 2 lane - Level 1																				4.52	143.97	0.00		148.49	12.76%													
	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%													
	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%													
	Hard Surface - Level 1						0.30														0.30	0.00	0.00	0	0.30	0.03%													
	Gravel - Level 3			2.11	2.27	3.49	6.49	1.97	2.98	0.04											0.00	19.33	0	0	19.33	1.66%													
	Gravel - Level 2	0.06	11.86	26.57	40.79	65.12	26.61	27.77	18.53	10.85	0.32										0.00	217.30	11.17	0	228.47	19.63%													
	Gravel - Level 1	2.25	75.57	135.73	180.18	141.43	62.29	44.64	16.01												0.00	642.09	16.01	0.118	658.21	56.55%													
	Earth 2 lane	40.27	26.32	13.29	0.40	0.74															0.00	80.29	0.739	0	81.03	6.96%													
	Earth 1 lane	1.01	0.53	1.06																	0.00	2.59	0.00	0	2.59	0.22%													
	Unimproved	8.08	1.56	0.51	0.50																0.00	9.64	1.01	0	10.64	0.91%													
		51.7	115.9	179.3	224.1	211.1	95.8	75.3	40.7	24.4	48.7	41.6	35.9	17.7	1.8	0.0	0.0	0.0	0.0	0.0	6.1	1128.8	28.9	0.1	1163.91														
		4.44%	9.96%	15.40%	19.26%	18.14%	8.23%	6.47%	3.49%	2.10%	4.19%	3.58%	3.09%	1.52%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.52%	96.98%	2.48%	0.01%															

Analysis of mileages in each B/C ratio zone																					County: 87		Taylor				
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS #	Paved - 4 lane - divided																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
	Paved - 4 lane																				0.00	0.00	0	0	0.00	0.00%	0.00%
Paved - 3 lane																					0.00	0.00	0.00	0	0.00	0.00%	
Paved - 2 lane - Level 3					1.04	0.65		2.82	5.16	13.92	21.28	0.93		0.02							23.59	22.23		0	45.82	4.98%	
Paved - 2 lane - Level 2									4.05	1.49	0.93	0.37									4.05	2.79	0.00		6.84	0.74%	
Paved - 2 lane - Level 1							1.25	2.50	4.01	7.15	7.82	1.36	4.49								7.75	20.81	0.00		28.56	3.11%	
Hard Surface - Level 2																					0.00	0.00	0		0.00	0.00%	0.92%
Hard Surface - Level 1							2.78	0.75	3.65		1.24										3.53	4.90	0.00	0	8.43	0.92%	
Gravel - Level 3			1.64		1.01	2.22	2.43	0.44													0.00	7.75	0	0	7.75	0.84%	
Gravel - Level 2		3.85	50.98	82.16	111.39	78.58	37.11	16.40	6.12												0.00	386.60	0.00	0	386.60	42.04%	77.07%
Gravel - Level 1		10.28	51.90	88.07	76.39	65.18	16.40	5.59	0.50												0.00	313.83	0.50	0	314.32	34.18%	
Earth 2 lane		56.78	34.02	17.47	1.01	1.75															0.00	109.28	1.746	0	111.03	12.07%	
Earth 1 lane		1.54	0.80	0.94						0.13											0.00	3.28	0.00	0.13	3.41	0.37%	12.45%
Unimproved		6.53	0.17			0.08															0.00	6.69	0.08		6.78	0.74%	
		79.0	139.5	188.6	190.9	151.2	57.9	31.4	20.0	23.8	30.0	2.7	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.9	878.2	2.3	0.1	919.53		
		8.59%	15.17%	20.52%	20.76%	16.45%	6.30%	3.42%	2.17%	2.59%	3.27%	0.29%	0.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.23%	95.50%	0.25%	0.01%			





Analysis of mileages in each B/C ratio zone																					County: 91		Warren				
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
	Mini VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
	leage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6							
14	Paved - 4 lane - divided																				0.00		0.00	0	0	0.00	0.00%
13	Paved - 4 lane																				0.00		0.00	0	0	0.00	
12	Paved - 3 lane																				0.00		0.00		0	0.00	
11	Paved - 2 lane - Level 3			0.21	0.51	0.19		1.83	1.90	7.78	21.52	16.70	34.83	19.47	12.33	6.90	1.95	1.03			12.43	114.72		0	127.15	14.45%	15.30%
10	Paved - 2 lane - Level 2		0.52					0.03	0.16	0.20		0.77	0.32	1.21	1.06	2.88					0.70	6.43	0.00		7.13	0.81%	
9	Paved - 2 lane - Level 1															0.38					0.00	0.00	0.38		0.38	0.04%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	0.11%
7	Hard Surface - Level 1				1.00																1.00	0.00	0.00	0	1.00	0.11%	
6	Gravel - Level 3		0.90			0.46	4.86	9.22	9.86	3.54	0.63	0.51		0.16	0.50						0.00	28.84	1.798	0	30.64	3.48%	
5	Gravel - Level 2		2.76	9.68	17.08	25.37	17.75	40.51	10.79	20.44	4.94	1.70									0.00	123.92	27.09	0	151.00	17.16%	75.89%
4	Gravel - Level 1	3.13	35.74	49.16	80.40	96.37	81.15	90.51	21.20	17.68	6.72	1.00	1.07	0.93		0.26	1.62				0.00	436.44	47.60	2.28	486.32	55.25%	
3	Earth 2 lane	6.13	26.75	17.16	17.29	5.15		0.38	1.50	0.06											0.00	67.33	7.028	0.062	74.42	8.45%	
2	Earth 1 lane		0.91																		0.00	0.91	0.00	0	0.91	0.10%	8.56%
1	Unimproved	1.23																			0.00	1.23	0.00	0	1.23	0.14%	0.14%
		10.5	67.6	76.2	116.3	127.5	103.8	142.5	45.4	49.7	33.8	20.7	36.2	21.8	13.9	10.4	3.0	1.0	0.0	0.0	14.1	779.8	83.9	2.3	880.17		
		1.19%	7.68%	8.66%	13.21%	14.49%	11.79%	16.19%	5.16%	5.65%	3.84%	2.35%	4.12%	2.47%	1.58%	1.18%	0.34%	0.12%	0.00%	0.00%	1.61%	88.60%	9.53%	0.27%			

Analysis of mileages in each B/C ratio zone																				County: 92		Washington					
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
	leage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.01%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane												0.10								0.10	0.00		0	0.10	0.01%	
11	Paved - 2 lane - Level 3				0.02	0.51		2.14	7.57	4.56	18.26	35.80	19.92	9.64	13.76	8.36	1.04				14.80	106.78		0	121.58	13.36%	13.94%
10	Paved - 2 lane - Level 2										1.03		2.98	1.34							0.00	5.35	0.00		5.35	0.59%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	0.82%
7	Hard Surface - Level 1					0.27	0.42	0.14	0.25	5.37	0.94	0.06									0.68	6.77	0.00	0	7.45	0.82%	
6	Gravel - Level 3		1.18		1.94	1.98	7.18	9.10	2.01	3.73		0.10		0.13							0.00	27.12	0.229	0	27.35	3.00%	
5	Gravel - Level 2	0.02	10.57	20.69	46.98	47.07	44.22	46.70	16.30	6.47											0.00	232.55	6.47	0	239.03	26.26%	73.94%
4	Gravel - Level 1	1.50	51.97	73.32	97.81	61.61	50.62	42.58	22.33	4.96											0.00	379.42	27.30	0	406.72	44.68%	
3	Earth 2 lane	3.13	59.98	9.82	6.96	0.98	0.36	1.35													0.00	79.88	2.69	0	82.57	9.07%	
2	Earth 1 lane	0.27	4.31					0.89													0.00	4.59	0.89	0	5.48	0.60%	9.67%
1	Unimproved	14.66																			0.00	14.66	0.00	0	14.66	1.61%	1.61%
		19.6	128.0	103.8	153.7	112.4	102.8	102.9	48.5	25.1	20.2	36.1	22.9	11.1	13.8	8.4	1.0	0.0	0.0	0.0	15.6	857.1	37.6	0	910.28		
		2.15%	14.06%	11.41%	16.89%	12.35%	11.29%	11.30%	5.32%	2.76%	2.22%	3.96%	2.52%	1.22%	1.51%	0.92%	0.11%	0.00%	0.00%	0.00%	1.71%	94.16%	4.13%	0.00%			

Analysis of mileages in each B/C ratio zone																					County: 93		Wayne				
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Max VPD	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
	leage weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3				0.84	1.19		11.00	4.44	17.06	27.98	28.33	10.41	0.50							34.54	67.22		0	101.78	12.18%	12.19%
10	Paved - 2 lane - Level 2				0.14																0.14	0.00	0.00		0.14	0.02%	
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0	0	0.00	0.00%	0.00%
7	Hard Surface - Level 1																				0.00	0.00	0.00	0	0.00	0.00%	
6	Gravel - Level 3	0.15		0.15	10.79	9.15	7.64	11.26	3.75		0.25	0.50									0.15	42.73	0.746	0	43.63	5.22%	
5	Gravel - Level 2	6.09	9.48	54.68	94.60	64.91	36.11	23.23	8.48	3.62	1.01										0.00	297.57	4.63	0	302.20	36.16%	79.45%
4	Gravel - Level 1	6.24	38.31	88.90	118.18	42.47	16.01	7.58	0.07	0.26	0.05										0.00	317.69	0.38	0	318.07	38.06%	
3	Earth 2 lane	16.07	30.44	5.26	2.01	0.83															0.00	53.78	0.826	0	54.61	6.53%	7.72%
2	Earth 1 lane	4.68	2.39	1.73	1.09																0.00	8.80	1.09	0	9.89	1.18%	
1	Unimproved	5.36																			0.00	5.36	0.00	0	5.36	0.64%	0.64%
		38.6	80.6	150.7	227.7	118.5	59.8	53.1	16.7	20.9	29.3	28.8	10.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	34.8	793.2	7.7	0	835.65		
		4.62%	9.65%	18.04%	27.24%	14.19%	7.15%	6.35%	2.00%	2.51%	3.51%	3.45%	1.25%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.17%	94.92%	0.92%	0.00%			



Analysis of mileages in each B/C ratio zone																				
		County: 94 Webster																		
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6
LOS #		Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp												
14	Paved - 4 lane - divided	0.00	0.00	0	0	0.00	0.00%													
13	Paved - 4 lane	0.00	0.00	0.00	0	0.00	0.00%													
12	Paved - 3 lane	0.38	0.44	0	0	0.80	0.07%													
11	Paved - 2 lane - Level 3	12.53	22.67	0	0	35.20	3.00%													
10	Paved - 2 lane - Level 2	17.79	219.48	4.02	0	241.28	20.60%													
9	Paved - 2 lane - Level 1	0.11	1.18	0.00	0	1.29	0.11%													
8	Hard Surface - Level 2	0.17	1.59	0.217	0	1.97	0.17%													
7	Hard Surface - Level 1	2.72	4.51	0.00	0	7.23	0.62%													
6	Gravel - Level 3	0.00	88.51	0	0	88.51	7.39%													
5	Gravel - Level 2	0.00	665.01	0.81	0	665.82	56.84%													
4	Gravel - Level 1	0.00	123.56	0.58	0	124.14	10.60%													
3	Earth 2 lane	0.00	2.96	0	0	2.96	0.25%													
2	Earth 1 lane	0.00	0.94	0.00	0	0.94	0.08%													
1	Unimproved	0.00	3.28	0.00	0	3.28	0.28%													
		33.7	1132.1	5.6	0	1171.41														
		2.87%	96.65%	0.48%	0.00%															

Analysis of mileages in each B/C ratio zone																										
		County: 95 Winnebago																								
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19						
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771						
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620						
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6						
LOS #																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS gr
14	Paved - 4 lane - divided																			0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																			0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																			0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3	0.26																		0.26	0.45		0	0.71	0.10%	20.24%
10	Paved - 2 lane - Level 2	0.09																		11.96	89.23	0.00		101.18	14.27%	
9	Paved - 2 lane - Level 1																			0.00	40.09	1.51		41.60	5.87%	
8	Hard Surface - Level 2																			0.00	0.00	0		0.00	0.00%	0.02%
7	Hard Surface - Level 1																			0.00	0.16	0.00	0	0.16	0.02%	
6	Gravel - Level 3	0.99																		0.00	7.92	0	0	7.92	1.12%	
5	Gravel - Level 2	3.06																		0.00	53.13	0.49	0	53.62	7.56%	78.94%
4	Gravel - Level 1	3.96	38.70	98.35	162.47	128.92	43.81	17.89	4.01											0.00	494.11	4.01	0	498.12	70.26%	
3	Earth 2 lane																			0.00	0.00	0		0.00	0.00%	
2	Earth 1 lane																			0.00	0.00	0.00	0	0.00	0.00%	0.00%
1	Unimproved	1.00	2.50	1.86	0.27														0.00	3.50	2.13	0	5.63	0.79%		
		5.0	44.5	104.7	175.4	141.5	57.7	32.7	2.22%	33.4	31.4	48.0	15.7	1.8	1.6	0.0	0.0	0.0	0.0	0.0	0.0					
		0.70%	6.28%	14.77%	24.74%	19.96%	8.14%	4.81%	2.22%	4.70%	4.43%	6.76%	2.21%	0.25%	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%					

Analysis of mileages in each B/C ratio zone																				
		County: 96 Winneshiek																		
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7888.2	10967.6
LOS #		Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp												
14	Paved - 4 lane - divided	0.00	0.00	0	0	0.00	0.00%	0.00%												
13	Paved - 4 lane	0.00	0.00	0	0	0.00	0.00%													
12	Paved - 3 lane	0.00	0.00	0	0	0.00	0.00%													
11	Paved - 2 lane - Level 3	8.99	52.17	0	0	61.16	5.79%	19.36%												
10	Paved - 2 lane - Level 2	11.27	132.11	0.00	0	143.38	13.57%													
9	Paved - 2 lane - Level 1	0.00	0.00	0.00	0	0.00	0.00%													
8	Hard Surface - Level 2	0.00	0.00	0	0	0.00	0.00%	0.65%												
7	Hard Surface - Level 1	2.18	4.08	0.61	0	6.86	0.65%													
6	Gravel - Level 3	0.00	5.57	0.199	0	5.77	0.55%													
5	Gravel - Level 2	0.00	216.67	14.75	0	231.42	21.90%	78.71%												
4	Gravel - Level 1	0.00	564.23	29.44	0	594.40	56.26%													
3	Earth 2 lane	0.00	2.70	0	0	2.70	0.26%													
2	Earth 1 lane	0.00	0.00	0.00	0	0.00	0.00%	0.26%												
1	Unimproved	0.00	10.81	0.00	0	10.81	1.02%													
		22.4	988.3	45.0	0	1056.51														
		2.12%	93.55%	4.26%	0.07%															

Analysis of mileages in each B/C ratio zone																					County: 97		Woodbury				
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00	0.00	0.00	0.00%	
11	Paved - 2 lane - Level 3		0.60	0.42	0.09	0.71		5.38	7.60	27.31	10.95	10.35	4.18	5.64	11.20	2.20					42.10	44.51	0.00	0.00	88.61	6.50%	
10	Paved - 2 lane - Level 2		0.30		0.24	3.45	3.21	6.31	22.83	26.76	52.00	47.04	23.31	16.09	9.28	2.99					36.35	179.46	0.00	0.00	215.81	16.19%	22.74%
9	Paved - 2 lane - Level 1							0.45		0.26											0.45	0.26	0.00	0.00	0.71	0.05%	
8	Hard Surface - Level 2																				0.00	0.00	0.00	0.00	0.00	0.00%	0.02%
7	Hard Surface - Level 1								0.24												0.00	0.24	0.00	0.00	0.24	0.02%	
6	Gravel - Level 3		2.08	5.74	10.11	10.94	6.75	16.21	5.05	1.77	1.42										0.00	58.64	1.418	0.00	60.05	4.50%	71.28%
5	Gravel - Level 2	2.39	52.08	120.59	127.99	114.05	42.45	39.53	11.64	8.36	2.26	0.55									0.00	510.71	11.16	0.00	521.87	39.14%	
4	Gravel - Level 1	2.67	54.80	109.69	86.46	77.30	15.85	10.30	6.66	2.63	1.00	1.00									0.00	357.07	10.28	1.087	368.44	27.64%	
3	Earth 2 lane	2.62	45.86	10.07	2.94	2.62	1.17														0.00	61.50	3.791	0.00	65.29	4.90%	
2	Earth 1 lane		0.57																		0.00	0.57	0.00	0.00	0.57	0.04%	4.94%
1	Unimproved	12.92	0.70																		0.00	13.61	0.00	0.00	13.61	1.02%	1.02%
		20.6	157.0	246.5	227.8	209.1	69.4	78.2	54.0	69.1	67.6	59.0	27.5	21.7	20.5	5.2	0.0	0.0	0.0	0.0	78.9	1226.6	26.7	1.1	1333.20		
		1.54%	11.77%	18.49%	17.09%	15.68%	5.21%	5.86%	4.05%	5.18%	5.07%	4.43%	2.06%	1.63%	1.54%	0.39%	0.00%	0.00%	0.00%	0.00%	5.92%	92.00%	2.00%	0.06%			

Analysis of mileages in each B/C ratio zone																					County: 98		Worth				
LOS #	Traffic Band number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
	Min VPD	0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
	Weighted Avg VPD	4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
14	Paved - 4 lane - divided																				0.00	0.00	0		0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00		0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00	0.00		0.00	0.00%	
11	Paved - 2 lane - Level 3							0.48	3.19	0.93	3.12	8.54	8.57	1.11							4.60	21.34	0		25.95	3.80%	
10	Paved - 2 lane - Level 2		0.18		0.11	3.34	10.87	20.21	32.83	31.65	40.25	14.82	11.49	5.31	3.69						67.54	107.21	0.00		174.74	25.61%	29.70%
9	Paved - 2 lane - Level 1									2.00											0.00	2.00	0.00		2.00	0.29%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	0.46%
7	Hard Surface - Level 1					1.63		1.54													1.63	1.54	0.00		3.17	0.46%	
6	Gravel - Level 3		0.06	0.32	3.71	6.21	2.77	0.10													0.00	13.17	0		13.17	1.93%	68.51%
5	Gravel - Level 2		18.27	35.81	93.75	92.77	38.13	24.25	1.69												0.00	304.66	0.00		304.66	44.65%	
4	Gravel - Level 1		19.78	32.48	34.32	35.56	21.13	8.42													0.00	149.68	0.00		149.68	21.93%	
3	Earth 2 lane		0.10		1.00																0.00	1.10	0		1.10	0.16%	
2	Earth 1 lane		0.43																		0.00	0.43	0.00		0.43	0.06%	0.22%
1	Unimproved	6.77	0.71																		0.00	7.48	0.00		7.48	1.10%	1.10%
		6.8	39.5	68.6	132.9	139.5	72.9	53.0	37.7	34.6	43.4	14.8	20.0	13.9	4.8	0.0	0.0	0.0	0.0	0.0	73.8	608.6	0.0	0.0	682.36		
		0.99%	5.79%	10.05%	19.47%	20.44%	10.68%	7.76%	5.53%	5.07%	6.36%	2.17%	2.94%	2.03%	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%	10.81%	89.19%	0.00%	0.00%			

Analysis of mileages in each B/C ratio zone																					County: 99		Wright	
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771				
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620				
Weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6				
LOS #																								
14	Paved - 4 lane - divided																							
13	Paved - 4 lane																							
12	Paved - 3 lane																							
11	Paved - 2 lane - Level 3				0.32	0.20				1.27	0.84	1.53	2.16	8.30	1.45									
10	Paved - 2 lane - Level 2				1.06	0.59		1.99	4.72	16.45	34.74	46.55	33.49	8.70										
9	Paved - 2 lane - Level 1																							
8	Hard Surface - Level 2							0.25																
7	Hard Surface - Level 1																							
6	Gravel - Level 3				1.04	13.84	11.62	1.99	1.00	0.55			0.50											
5	Gravel - Level 2	5.26	19.44	61.75	118.52	54.08	42.04	24.41	1.93	0.72														
4	Gravel - Level 1	12.62	24.65	99.52	151.60	92.12	30.98	18.95	1.08															
3	Earth 2 lane	0.40																						
2	Earth 1 lane	0.35																						
1	Unimproved	1.36	0.76																					
		20.0	44.1	162.0	272.5	160.6	84.8	47.6	8.7	19.0	35.6	49.9	36.1	17.0	1.5	0.0	0.0	0.0	0.0	0.0				
		2.08%	4.60%	16.89%	28.40%	16.74%	8.84%	4.96%	0.91%	1.98%	3.71%	5.20%	3.77%	1.77%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%				

**APPENDIX 2 :**  
**5 sheets of county by county listings of road segments with**  
**an upgrade Savings to Cost ratio greater than 4.00**



Analysis of mileages in each B/C ratio zone																				County:		19		Chickasaw			
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620							
# leage weighted Avg VPD		4	10.3	18.8	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS	#																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3																				0.31	30.12		0	30.43	3.62%	
10	Paved - 2 lane - Level 2																				6.26	96.79	0.00		103.06	12.26%	15.87%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	
7	Hard Surface - Level 1																				0.00	0.73	0.00		0.73	0.09%	
6	Gravel - Level 3																				0.00	49.02	0		49.02	5.83%	0.09%
5	Gravel - Level 2																				0.00	217.29	1.46		218.75	26.01%	
4	Gravel - Level 1																				0.00	418.34	9.14		427.48	50.83%	
3	Earth 2 lane																				0.00	4.90	0		4.90	0.58%	
2	Earth 1 lane																				0.00	0.00	0.00		0.00	0.00%	0.58%
1	Unimproved																				0.00	6.31	0.25		6.56	0.78%	
		2.11	4.20	0.25																		6.6	823.5	10.8	0	840.92	
		2.1	36.7	100.5	178.9	162.6	111.4	92.0	27.6	14.6	34.0	24.0	35.8	20.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.78%	97.93%	1.29%	0.00%		
		0.25%	4.36%	11.95%	21.27%	19.33%	13.24%	10.94%	3.28%	1.74%	4.04%	2.85%	4.28%	2.42%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%						

Analysis of mileages in each B/C ratio zone																											
		County: 20 Clarke																									
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771							
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14820							
leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.6	5290.3	7886.2	10967.6							
LOS	#																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total
14	Paved - 4 lane - divided																				0.00	0.00	0	0	0.00	0.00%	0.00%
13	Paved - 4 lane																				0.00	0.00	0.00	0	0.00	0.00%	
12	Paved - 3 lane																				0.00	0.00		0	0.00	0.00%	
11	Paved - 2 lane - Level 3																				18.39	20.85		0	39.24	5.95%	
10	Paved - 2 lane - Level 2																				2.42	1.00	0.00		3.42	0.52%	6.47%
9	Paved - 2 lane - Level 1																				0.00	0.00	0.00		0.00	0.00%	
8	Hard Surface - Level 2																				0.00	0.00	0		0.00	0.00%	
7	Hard Surface - Level 1																				3.32	1.41	0.00		4.73	0.72%	
6	Gravel - Level 3																				0.00	13.17	0.249		13.42	2.03%	80.90%
5	Gravel - Level 2																				0.00	115.45	3.78		119.24	18.08%	
4	Gravel - Level 1	16.58	60.16	92.66	96.86	77.24	22.19	32.92	1.57	0.73											0.00	398.60	2.30		400.90	60.79%	
3	Earth 2 lane	17.01	28.43	7.10	11.59		1.18														0.00	64.13	1.182	0.199	65.51	9.93%	
2	Earth 1 lane																				0.00	6.16	2.73		8.89	1.35%	11.28%
1	Unimproved	4.09	0.06																		0.00	4.15	0.00		4.15	0.63%	
		37.7	95.8	107.6	123.5	111.4	55.5	57.5	30.7	16.7	16.5	6.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0							
		5.71%	14.53%	16.32%	18.73%	16.90%	8.42%	8.73%	4.66%	2.53%	2.50%	0.91%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%							
																					24.1	624.9	10.2	0.2	659.49		
																					3.66%	94.78%	1.55%	0.03%			

Analysis of mileages in each B/C ratio zone																					County: 21		Clay						
Traffic Band number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19									
Min VPD		0	5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9771									
Max VPD		5	13	23	35	52	78	115	175	260	390	580	870	1300	1950	2920	4365	6530	9770	14620									
# leage weighted Avg VPD		4	10.3	18.6	29.5	43.7	65.5	93.3	140.9	216.2	323.8	479.8	709.7	1057.9	1551.4	2327.5	3498.8	5290.3	7886.2	10967.8									
LOS	#																				Exceeds need	OK	Upgrade justified	Upgrade urgent	LOS miles	LOS % of total	LOS grp % of total		
	14	Paved - 4 lane - divided																			0.00	0.00	0	0	0.00	0.00%	0.00%		
	13	Paved - 4 lane																			0.00	0.00	0.00	0	0	0.00		0.00%	
	12	Paved - 3 lane																			0.00	0.00		0	0	0.00		0.00%	
	11	Paved - 2 lane - Level 3																			6.29	3.08		0	0	9.38		0.97%	
	10	Paved - 2 lane - Level 2				1.01	0.83	0.69	3.31	16.24	35.37	24.95	50.44	38.34	13.15	9.09	2.26					22.08	173.59	0.00		0	195.67	20.34%	21.42%
	9	Paved - 2 lane - Level 1																			0.00	1.03	0.00		0	1.03	0.11%		
	8	Hard Surface - Level 2																			0.00	0.00	0		0	0.00	0.00%		
	7	Hard Surface - Level 1																			0.00	0.00	0.00	0	0	0.00	0.00%		
	6	Gravel - Level 3		3.54	7.97	12.23	14.89	6.72	7.54	1.00	0.57										0.00	54.46	0	0	0	54.46	5.66%	0.00%	
	5	Gravel - Level 2	2.74	54.93	135.06	179.21	163.20	56.57	15.20	6.49	5.84	1.00									0.00	613.41	6.84	0	0	620.25	64.48%		
	4	Gravel - Level 1	2.93	22.81	34.03	10.20	3.25	1.11													0.00	74.32	0.00	0	0	75.06	7.80%		
	3	Earth 2 lane		2.34	0.40												0.74				0.00			0	0	2.73	0.28%		
	2	Earth 1 lane		0.25	0.47																0.00	0.72	0.00	0	0	0.72	0.07%	0.36%	
	1	Unimproved	0.29	1.28	1.03																0.00		1.57	1.03	0	0	2.60		0.27%
		6.0	85.1	179.0	202.7	182.2	65.1	26.1	23.8	48.0	26.7	52.3	38.3	14.7	9.1	3.0	0.0	0.0	0.0	0.0	28.4	924.9	7.9	0.7	0	961.90			
		0.62%	8.85%	18.61%	21.07%	18.94%	6.77%	2.71%	2.48%	4.99%	2.77%	5.44%	3.99%	1.52%	0.95%	0.31%	0.00%	0.00%	0.00%	0.00%	2.95%	96.16%	0.82%	0.08%					



## TCT Report of Road Segment capital improvement candidates by county

CO: 02

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
02072342804	0.491	410	4	8	\$0.555	\$400	\$163,189	\$80	4.988
02072342903	0.193	500	4	8	\$0.555	\$192	\$163,189	\$31	6.083
02071340718	0.068	270	2	8	\$2.204	\$145	\$193,074	\$13	11.037

CO: 03

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
03097050704	1.013	450	4	8	\$0.555	\$905	\$163,189	\$165	5.475

CO: 04

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
04069181402	0.988	510	5	8	\$0.402	\$725	\$155,627	\$154	4.716
04069182302	0.497	510	5	8	\$0.402	\$365	\$155,627	\$77	4.716
04069182505	0.087	450	4	8	\$0.555	\$78	\$163,189	\$14	5.475

CO: 05

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
05078340609	0.037	490	5	8	\$0.402	\$26	\$155,627	\$6	4.531

CO: 06

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
06085093501	1.019	1500	5	11	\$0.514	\$2,814	\$563,786	\$574	4.899
06083101201	0.988	560	5	8	\$0.402	\$796	\$155,627	\$154	5.178
06085092407	0.398	430	4	8	\$0.555	\$340	\$163,189	\$65	5.232

CO: 07

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
07089142902	1.031	400	4	8	\$0.555	\$819	\$163,189	\$168	4.867
07090122602	1.000	400	4	8	\$0.555	\$794	\$163,189	\$163	4.867
07090131802	1.000	400	4	8	\$0.555	\$794	\$163,189	\$163	4.867
07089130706	0.180	400	4	8	\$0.555	\$143	\$163,189	\$29	4.867
07088141401	0.752	550	5	8	\$0.402	\$595	\$155,627	\$117	5.086
07088141403	0.249	550	5	8	\$0.402	\$197	\$155,627	\$39	5.086
07090123502	1.000	500	4	8	\$0.555	\$993	\$163,189	\$163	6.083

CO: 08

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
08082263604	0.249	440	4	8	\$0.555	\$218	\$163,189	\$41	5.353

CO: 09

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
09092133203	0.758	1060	4	11	\$0.639	\$1,837	\$571,348	\$433	4.242
09091120101	1.000	400	4	8	\$0.555	\$794	\$163,189	\$163	4.867
09091131503	1.112	530	5	8	\$0.402	\$848	\$155,627	\$173	4.901
09091131603	0.528	530	5	8	\$0.402	\$403	\$155,627	\$82	4.901
09092130201	1.013	510	4	8	\$0.555	\$1,026	\$163,189	\$165	6.205
09091130906	1.069	530	4	8	\$0.555	\$1,125	\$163,189	\$174	6.448
09091130908	0.050	530	4	8	\$0.555	\$53	\$163,189	\$8	6.448
09091131403	0.882	530	4	8	\$0.555	\$928	\$163,189	\$144	6.448

09091132303	0.168	530	4	8	\$0.555	\$177	\$163,189	\$27	6.448
09093120806	0.081	560	4	8	\$0.555	\$90	\$163,189	\$13	6.813
09092142605	0.441	2300	4	11	\$0.702	\$2,551	\$571,348	\$252	10.124

CO: 10

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
10089100906	0.261	150	3	8	\$1.351	\$189	\$180,486	\$47	4.021
10090072303	0.242	360	4	8	\$0.521	\$163	\$163,189	\$39	4.116
10090072401	1.000	360	4	8	\$0.521	\$672	\$163,189	\$163	4.116
10088090812	0.217	1990	6	11	\$0.372	\$575	\$549,621	\$119	4.819
10088090905	0.410	570	5	8	\$0.402	\$336	\$155,627	\$64	5.271
10090091603	0.802	490	4	8	\$0.555	\$780	\$163,189	\$131	5.962
10088090907	0.130	570	4	8	\$0.555	\$147	\$163,189	\$21	6.935

CO: 11

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
11090352008	0.062	480	4	8	\$0.555	\$59	\$163,189	\$10	5.840

CO: 13

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
13089332204	0.951	400	4	8	\$0.555	\$755	\$163,189	\$155	4.867

CO: 14

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
14084342001	1.013	480	5	8	\$0.402	\$700	\$155,627	\$158	4.438

CO: 15

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
15077361109	0.031	550	5	8	\$0.402	\$25	\$155,627	\$5	5.086

CO: 16

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
16080020606	0.267	500	5	8	\$0.402	\$192	\$155,627	\$42	4.623
16079031314	0.149	2070	5	11	\$0.542	\$598	\$563,786	\$84	7.123

CO: 17

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
17096222215	0.050	1120	4	11	\$0.639	\$128	\$571,348	\$29	4.482
17096222008	0.211	400	4	8	\$0.555	\$168	\$163,189	\$34	4.867

CO: 20

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
20072250601	0.012	550	5	8	\$0.402	\$9	\$155,627	\$2	5.086
20072262207	0.199	190	3	8	\$1.457	\$197	\$180,486	\$36	5.494

CO: 21

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
21096371403	0.739	2660	4	11	\$0.702	\$4,944	\$571,348	\$422	11.709



## TCT Report of Road Segment capital improvement candidates by county

CO: 22

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
22091050906	0.423	80	1	8	\$3.050	\$370	\$199,631	\$84	4.377
22091051604	0.037	80	1	8	\$3.050	\$32	\$199,631	\$7	4.377

CO: 23

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
23081E11006	0.249	500	4	8	\$0.555	\$247	\$163,189	\$41	6.083

CO: 24

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
24082382404	0.460	150	3	8	\$1.351	\$334	\$180,486	\$83	4.021
24082411202	0.081	150	3	8	\$1.351	\$59	\$180,486	\$15	4.021
24083391303	0.510	150	3	8	\$1.351	\$370	\$180,486	\$92	4.021
24082382406	0.249	150	3	8	\$1.351	\$181	\$180,486	\$45	4.021
24082411103	0.497	150	3	8	\$1.351	\$361	\$180,486	\$90	4.021
24083391004	0.019	1910	4	11	\$0.673	\$87	\$571,348	\$11	8.056

CO: 25

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
25080270706	0.199	450	5	8	\$0.402	\$129	\$155,627	\$31	4.161
25078261603	0.497	560	5	8	\$0.402	\$401	\$155,627	\$77	5.178

CO: 28

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
28090062212	0.037	360	4	8	\$0.521	\$25	\$163,189	\$6	4.116
28088033603	0.068	380	4	8	\$0.521	\$48	\$163,189	\$11	4.345
28088040604	0.758	60	1	6	\$2.929	\$477	\$130,741	\$99	4.813
28087052102	0.982	550	5	8	\$0.402	\$777	\$155,627	\$153	5.086
28089051004	0.081	420	4	8	\$0.555	\$68	\$163,189	\$13	5.110
28090040604	0.162	570	5	8	\$0.402	\$133	\$155,627	\$25	5.271

CO: 29

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
29070021703	0.199	350	4	8	\$0.521	\$130	\$163,189	\$32	4.002
29069023003	1.019	390	4	8	\$0.521	\$742	\$163,189	\$166	4.459
29070032803	0.050	1300	4	11	\$0.639	\$149	\$571,348	\$29	5.202
29069031101	0.497	2060	4	11	\$0.702	\$2,575	\$571,348	\$284	9.068

CO: 30

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
30100361404	0.280	530	5	8	\$0.402	\$214	\$155,627	\$44	4.901

CO: 31

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
31087012508	0.143	350	4	8	\$0.521	\$93	\$163,189	\$23	4.002

CO: 32

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
32098331801	0.019	470	4	8	\$0.555	\$18	\$163,189	\$3	5.718

32098331803 0.118 470 4 8 \$0.555 \$110 \$163,189 \$19 5.718

CO: 33

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
33091093408	0.478	350	4	8	\$0.521	\$312	\$163,189	\$78	4.002
33093073606	0.423	540	5	8	\$0.402	\$329	\$155,627	\$66	4.993

CO: 34

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
34096163606	0.242	350	4	8	\$0.521	\$158	\$163,189	\$39	4.002
34096170302	0.932	460	5	8	\$0.402	\$617	\$155,627	\$145	4.254

CO: 35

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
35092202209	0.193	450	5	8	\$0.402	\$125	\$155,627	\$30	4.161

CO: 37

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
37084303204	0.771	1030	4	11	\$0.639	\$1,816	\$571,348	\$441	4.122

CO: 38

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
38088181004	0.497	450	5	8	\$0.402	\$322	\$155,627	\$77	4.161

CO: 39

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
39078300402	0.149	460	5	8	\$0.402	\$99	\$155,627	\$23	4.254
39078300505	0.261	460	5	8	\$0.402	\$173	\$155,627	\$41	4.254
39078300806	0.547	500	5	8	\$0.402	\$394	\$155,627	\$85	4.623
39078300504	1.572	500	5	8	\$0.402	\$1,131	\$155,627	\$245	4.623
39078300808	0.447	530	5	8	\$0.402	\$341	\$155,627	\$70	4.901

CO: 42

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
42089212405	0.118	440	5	8	\$0.402	\$75	\$155,627	\$18	4.069
42089210601	0.062	520	5	8	\$0.402	\$46	\$155,627	\$10	4.808

CO: 43

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
43081410413	0.410	370	4	8	\$0.521	\$283	\$163,189	\$67	4.231
43081410303	0.242	370	4	8	\$0.521	\$167	\$163,189	\$39	4.231
43078450405	0.441	490	5	8	\$0.402	\$311	\$155,627	\$69	4.531
43079443106	0.497	490	4	8	\$0.555	\$484	\$163,189	\$81	5.962

CO: 44

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
44071072412	0.112	450	5	8	\$0.402	\$73	\$155,627	\$17	4.161
44071060507	0.068	370	4	8	\$0.521	\$47	\$163,189	\$11	4.231
44071061705	0.130	400	4	8	\$0.555	\$103	\$163,189	\$21	4.867
44071062003	0.112	400	4	8	\$0.555	\$89	\$163,189	\$18	4.867

# TCT Report of Road Segment capital improvement candidates by county

44071062015	0.143	400	4	8	\$0.555	\$114	\$163,189	\$23	4.867
44071060505	0.031	470	4	8	\$0.555	\$29	\$163,189	\$5	5.718
44071060607	0.081	470	4	8	\$0.555	\$76	\$163,189	\$13	5.718
44070052105	0.541	500	4	8	\$0.555	\$537	\$163,189	\$88	6.083

CO: 48

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
48081092814	0.162	500	5	8	\$0.402	\$117	\$155,627	\$25	4.623
48079100406	0.081	400	4	8	\$0.555	\$64	\$163,189	\$13	4.867
48079100403	0.062	400	4	8	\$0.555	\$49	\$163,189	\$10	4.867
48079100404	0.099	400	4	8	\$0.555	\$79	\$163,189	\$16	4.867
48080091106	0.062	410	4	8	\$0.555	\$50	\$163,189	\$10	4.988
48080100108	0.081	420	4	8	\$0.555	\$68	\$163,189	\$13	5.110
48080100106	0.019	420	4	8	\$0.555	\$16	\$163,189	\$3	5.110

CO: 49

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
49087E42504	0.180	450	5	8	\$0.402	\$117	\$155,627	\$28	4.161
49087E42506	0.441	450	5	8	\$0.402	\$286	\$155,627	\$69	4.161
49084E20207	0.068	460	5	8	\$0.402	\$45	\$155,627	\$11	4.254
49087E42405	0.659	450	4	8	\$0.555	\$589	\$163,189	\$108	5.475
49087E33207	0.068	510	4	8	\$0.555	\$69	\$163,189	\$11	6.205
49087E33205	0.659	510	4	8	\$0.555	\$667	\$163,189	\$108	6.205

CO: 50

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
50080192208	0.143	350	4	8	\$0.521	\$93	\$163,189	\$23	4.002
50080192210	0.143	350	4	8	\$0.521	\$93	\$163,189	\$23	4.002
50079180801	0.348	360	4	8	\$0.521	\$234	\$163,189	\$57	4.116
50079192803	0.497	2150	6	11	\$0.372	\$1,422	\$549,621	\$273	5.206
50079180705	0.037	440	4	8	\$0.555	\$32	\$163,189	\$6	5.353
50079180707	0.118	440	4	8	\$0.555	\$103	\$163,189	\$19	5.353

CO: 51

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
51072101509	0.249	400	4	8	\$0.555	\$198	\$163,189	\$41	4.867
51072101006	0.988	580	4	8	\$0.555	\$1,138	\$163,189	\$161	7.057

CO: 52

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
52079053204	0.169	560	5	8	\$0.402	\$136	\$155,627	\$26	5.178
52080063003	0.317	500	4	8	\$0.555	\$315	\$163,189	\$52	6.083
52079063304	0.547	570	4	8	\$0.555	\$619	\$163,189	\$89	6.935

CO: 53

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
53086041008	0.062	500	5	8	\$0.402	\$45	\$155,627	\$10	4.623

CO: 54

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
54075121602	0.497	350	4	8	\$0.521	\$325	\$163,189	\$81	4.002

54075121604	0.249	350	4	8	\$0.521	\$163	\$163,189	\$41	4.002
54075120402	0.969	350	4	8	\$0.521	\$633	\$163,189	\$158	4.002
54075121606	0.217	350	4	8	\$0.521	\$142	\$163,189	\$35	4.002
54075122102	0.112	350	4	8	\$0.521	\$73	\$163,189	\$18	4.002

CO: 55

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
55094301807	0.851	500	4	8	\$0.555	\$845	\$163,189	\$139	6.083

CO: 56

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
56065050203	0.292	410	4	8	\$0.555	\$238	\$163,189	\$48	4.988
56065050401	0.062	420	4	8	\$0.555	\$52	\$163,189	\$10	5.110
56065050803	0.298	420	4	8	\$0.555	\$249	\$163,189	\$49	5.110
56065050501	1.069	420	4	8	\$0.555	\$891	\$163,189	\$174	5.110

CO: 57

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
57083063010	0.081	500	5	8	\$0.402	\$58	\$155,627	\$13	4.623
57084081223	0.068	400	4	8	\$0.555	\$54	\$163,189	\$11	4.867
57083080132	0.199	400	4	8	\$0.555	\$158	\$163,189	\$32	4.867
57082080115	0.249	540	5	8	\$0.402	\$193	\$155,627	\$39	4.993
57082072203	0.497	420	4	8	\$0.555	\$414	\$163,189	\$81	5.110
57084081107	0.311	180	3	8	\$1.457	\$292	\$180,486	\$56	5.204
57086061907	0.050	100	1	8	\$3.050	\$55	\$199,631	\$10	5.471
57083082205	0.497	460	4	8	\$0.555	\$454	\$163,189	\$81	5.597
57083082203	0.510	460	4	8	\$0.555	\$466	\$163,189	\$83	5.597
57082080205	0.099	490	4	8	\$0.555	\$96	\$163,189	\$16	5.962
57086070401	0.062	520	4	8	\$0.555	\$64	\$163,189	\$10	6.327
57083082602	0.211	2070	5	11	\$0.542	\$847	\$563,786	\$119	7.123
57085072709	0.497	300	3	8	\$1.524	\$813	\$180,486	\$90	9.067
57083062706	0.317	3330	5	12	\$0.568	\$2,147	\$721,557	\$229	9.386
57083061702	0.889	2900	5	11	\$0.542	\$5,002	\$563,786	\$501	9.979

CO: 59

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
59073222105	0.087	450	5	8	\$0.402	\$56	\$155,627	\$14	4.161

CO: 61

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
61077280404	0.497	500	5	8	\$0.402	\$358	\$155,627	\$77	4.623
61074263503	0.603	510	5	8	\$0.402	\$443	\$155,627	\$94	4.716
61074263603	0.497	510	5	8	\$0.402	\$365	\$155,627	\$77	4.716
61074263605	0.249	510	5	8	\$0.402	\$183	\$155,627	\$39	4.716

CO: 62

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
62075170205	0.099	350	4	8	\$0.521	\$65	\$163,189	\$16	4.002
62075170203	0.217	350	4	8	\$0.521	\$142	\$163,189	\$35	4.002
62075150803	0.547	490	5	8	\$0.402	\$386	\$155,627	\$85	4.531
62075140208	0.292	230	3	8	\$1.457	\$350	\$180,486	\$53	6.650
62076140809	0.510	360	1	8	\$3.429	\$2,254	\$199,631	\$102	22.140

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CO: 63

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
63076183303	0.423	1010	4	11	\$0.639	\$977	\$571,348	\$242	4.042
63076183305	0.037	1010	4	11	\$0.639	\$85	\$571,348	\$21	4.042
63076183403	0.062	1010	4	11	\$0.639	\$143	\$571,348	\$35	4.042
63076183405	0.783	1010	4	11	\$0.639	\$1,808	\$571,348	\$447	4.042
63076183307	0.050	1010	4	11	\$0.639	\$115	\$571,348	\$29	4.042
63075190905	0.249	500	5	8	\$0.402	\$179	\$155,627	\$39	4.623
63075191303	0.081	400	4	8	\$0.555	\$64	\$163,189	\$13	4.867
63076180404	0.099	400	4	8	\$0.555	\$79	\$163,189	\$16	4.867
63076180406	0.099	400	4	8	\$0.555	\$79	\$163,189	\$16	4.867
63076180402	0.217	400	4	8	\$0.555	\$172	\$163,189	\$35	4.867
63077183304	0.510	400	4	8	\$0.555	\$405	\$163,189	\$83	4.867
63076183306	0.217	410	4	8	\$0.555	\$177	\$163,189	\$35	4.988
63075181606	0.398	450	4	8	\$0.555	\$356	\$163,189	\$65	5.475
63075182104	0.652	450	4	8	\$0.555	\$583	\$163,189	\$106	5.475
63075180403	0.423	460	4	8	\$0.555	\$386	\$163,189	\$69	5.597

CO: 64

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
64083182403	0.690	1010	4	11	\$0.639	\$1,593	\$571,348	\$394	4.042
64083190504	0.242	360	4	8	\$0.521	\$163	\$163,189	\$39	4.116

CO: 65

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
65072431404	0.292	390	4	8	\$0.521	\$212	\$163,189	\$48	4.459
65072431406	0.099	390	4	8	\$0.521	\$72	\$163,189	\$16	4.459
65073420203	0.162	560	5	8	\$0.402	\$131	\$155,627	\$25	5.178
65073432903	0.261	480	4	8	\$0.555	\$249	\$163,189	\$43	5.840
65073432007	0.708	480	4	8	\$0.555	\$675	\$163,189	\$116	5.840
65073432803	0.118	480	4	8	\$0.555	\$112	\$163,189	\$19	5.840
65072432303	0.130	500	4	8	\$0.555	\$129	\$163,189	\$21	6.083
65073420204	0.149	560	4	8	\$0.555	\$166	\$163,189	\$24	6.813
65073432106	0.280	290	3	8	\$1.524	\$443	\$180,486	\$51	8.765

CO: 67

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
67085443103	0.249	230	1	8	\$3.354	\$688	\$199,631	\$50	13.835

CO: 70

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
70078041308	0.217	150	3	8	\$1.351	\$157	\$180,486	\$39	4.021
70077030104	0.193	60	1	6	\$2.929	\$121	\$130,741	\$25	4.813
70078041406	0.659	570	5	8	\$0.402	\$541	\$155,627	\$103	5.271

CO: 77

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
77079241823	0.149	390	4	8	\$0.521	\$108	\$163,189	\$24	4.459
77078251902	0.783	510	5	8	\$0.402	\$575	\$155,627	\$122	4.716
77078251806	0.242	510	5	8	\$0.402	\$178	\$155,627	\$38	4.716
77078233214	0.230	10400	10	14	\$0.143	\$1,222	\$1,045,232	\$240	5.084

77078233216	0.269	10400	10	14	\$0.143	\$1,429	\$1,045,232	\$281	5.084
77079220802	0.019	550	5	8	\$0.402	\$15	\$155,627	\$3	5.086
77080250501	0.099	480	4	8	\$0.555	\$94	\$163,189	\$16	5.840
77081253206	0.087	480	4	8	\$0.555	\$83	\$163,189	\$14	5.840

CO: 78

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
78075441112	0.603	350	4	8	\$0.521	\$394	\$163,189	\$98	4.002
78075441204	0.652	350	4	8	\$0.521	\$426	\$163,189	\$106	4.002
78075441304	0.398	350	4	8	\$0.521	\$260	\$163,189	\$65	4.002
78074430506	0.143	3100	7	12	\$0.251	\$398	\$690,876	\$99	4.031
78074430315	0.087	1020	4	11	\$0.639	\$203	\$571,348	\$50	4.082
78075430706	0.497	360	4	8	\$0.521	\$334	\$163,189	\$81	4.116
78075431806	0.112	360	4	8	\$0.521	\$75	\$163,189	\$18	4.116
78077443308	0.211	500	5	8	\$0.402	\$152	\$155,627	\$33	4.623
78076443406	0.261	400	4	8	\$0.555	\$207	\$163,189	\$43	4.867
78074430313	0.162	1220	4	11	\$0.639	\$452	\$571,348	\$93	4.882
78074430912	0.497	410	4	8	\$0.555	\$405	\$163,189	\$81	4.988
78077413012	0.019	1630	4	11	\$0.673	\$75	\$571,348	\$11	6.875
78077380406	0.137	2120	5	11	\$0.542	\$563	\$563,786	\$77	7.295
78077440307	0.193	1730	4	11	\$0.673	\$805	\$571,348	\$110	7.297

CO: 80

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
80069310406	0.441	320	1	8	\$3.429	\$1,733	\$199,631	\$88	19.680

CO: 83

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMTsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
83081370202	0.447	150	3	8	\$1.351	\$324	\$180,486	\$81	4.021
83078403405	0.149	150	3	8	\$1.351	\$108	\$180,486	\$27	4.021
83079383006	0.460	150	3	8	\$1.351	\$334	\$180,486	\$83	4.021
83079391002	1.000	150	3	8	\$1.351	\$726	\$180,486	\$180	4.021
83079391501	1.000	150	3	8	\$1.351	\$726	\$180,486	\$180	4.021
83080382206	0.752	150	3	8	\$1.351	\$546	\$180,486	\$136	4.021
83080382704	0.988	150	3	8	\$1.351	\$717	\$180,486	\$178	4.021
83080392804	0.130	150	3	8	\$1.351	\$94	\$180,486	\$23	4.021
83080392806	0.870	150	3	8	\$1.351	\$631	\$180,486	\$157	4.021
83080393402	1.000	150	3	8	\$1.351	\$726	\$180,486	\$180	4.021
83079390302	0.938	150	3	8	\$1.351	\$681	\$180,486	\$169	4.021
83080393303	0.497	150	3	8	\$1.351	\$361	\$180,486	\$90	4.021
83078403403	0.510	160	3	8	\$1.351	\$395	\$180,486	\$92	4.289
83079371502	0.988	160	3	8	\$1.351	\$765	\$180,486	\$178	4.289
83079391401	0.572	190	3	8	\$1.457	\$567	\$180,486	\$103	5.494
83080383403	0.721	200	3	8	\$1.457	\$752	\$180,486	\$130	5.783
83080383303	0.280	200	3	8	\$1.457	\$292	\$180,486	\$51	5.783
83080383401	0.031	200	3	8	\$1.457	\$32	\$180,486	\$6	5.783
83079372103	0.267	210	3	8	\$1.457	\$293	\$180,486	\$48	6.072
83080383203	0.261	230	3	8	\$1.457	\$313	\$180,486	\$47	6.650
83080402203	0.423	230	3	8	\$1.457	\$508	\$180,486	\$76	6.650
83080402302	0.217	230	3	8	\$1.457	\$260	\$180,486	\$39	6.650
83080383301	0.727	230	3	8	\$1.457	\$873	\$180,486	\$131	6.650
83080383201	0.739	250	3	8	\$1.457	\$964	\$180,486	\$133	7.228
83079391403	0.429	270	3	8	\$1.524	\$632	\$180,486	\$77	8.161
83079380502	1.000	340	3	8	\$1.524	\$1,855	\$180,486	\$180	10.276



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83079380704	0.603	340	3	8	\$1,524	\$1,118	\$180,486	\$109	10.276
83080383202	1.000	340	3	8	\$1,524	\$1,855	\$180,486	\$180	10.276
83079380802	0.068	340	3	8	\$1,524	\$126	\$180,486	\$12	10.276
83079381904	0.242	380	3	8	\$1,524	\$502	\$180,486	\$44	11.485
83079381906	0.447	380	3	8	\$1,524	\$927	\$180,486	\$81	11.485

CO: 85

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
85084242403	0.621	1910	6	11	\$0.346	\$1,471	\$549,621	\$341	4.310
85084242306	0.118	1150	4	11	\$0.639	\$310	\$571,348	\$67	4.602
85084242312	0.081	1150	4	11	\$0.639	\$213	\$571,348	\$46	4.602
85083241615	0.081	2010	5	11	\$0.542	\$316	\$563,786	\$46	6.916

CO: 86

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
86082130803	0.068	400	4	8	\$0.555	\$54	\$163,189	\$11	4.867
86082131909	0.050	520	4	8	\$0.555	\$52	\$163,189	\$8	6.327

CO: 87

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
87069320108	0.130	120	2	8	\$2.016	\$113	\$193,074	\$25	4.487

CO: 90

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
90072142306	0.050	560	5	8	\$0.402	\$40	\$155,627	\$8	5.178
90072132904	0.199	430	4	8	\$0.555	\$170	\$163,189	\$32	5.232
90073152505	0.087	450	4	8	\$0.555	\$78	\$163,189	\$14	5.475
90071122605	0.242	190	3	8	\$1.457	\$240	\$180,486	\$44	5.494

CO: 91

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
91077241502	0.957	150	3	8	\$1.351	\$695	\$180,486	\$173	4.021
91077241004	0.280	150	3	8	\$1.351	\$203	\$180,486	\$51	4.021
91077242202	0.267	150	3	8	\$1.351	\$194	\$180,486	\$48	4.021
91077241903	0.739	440	5	8	\$0.402	\$468	\$155,627	\$115	4.069
91077241704	0.081	500	5	8	\$0.402	\$58	\$155,627	\$13	4.623
91076243607	0.360	1190	4	11	\$0.639	\$979	\$571,348	\$206	4.762
91076232802	0.311	1210	4	11	\$0.639	\$860	\$571,348	\$178	4.842
91077240501	0.261	1210	4	11	\$0.639	\$722	\$571,348	\$149	4.842
91077240201	0.081	450	4	8	\$0.555	\$72	\$163,189	\$13	5.475
91077240203	0.739	450	4	8	\$0.555	\$660	\$163,189	\$121	5.475
91077230906	0.062	200	3	8	\$1.457	\$65	\$180,486	\$11	5.783
91074253101	0.180	500	4	8	\$0.555	\$179	\$163,189	\$29	6.083
91077240503	0.261	2420	4	11	\$0.702	\$1,589	\$571,348	\$149	10.653
91077240401	0.522	3000	4	12	\$0.731	\$4,098	\$729,119	\$381	10.767
91077240505	0.497	3000	4	12	\$0.731	\$3,902	\$729,119	\$362	10.767

CO: 94

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
94089292501	0.112	450	5	8	\$0.402	\$73	\$155,627	\$17	4.161
94090281001	0.019	540	5	8	\$0.402	\$15	\$155,627	\$3	4.993

CO: 96

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
96097093501	0.541	410	4	8	\$0.555	\$440	\$163,189	\$88	4.988
96098081309	0.193	440	4	8	\$0.555	\$169	\$163,189	\$31	5.353

CO: 97

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
97089463109	0.298	550	5	8	\$0.402	\$236	\$155,627	\$46	5.086
97089461901	0.590	440	4	8	\$0.555	\$515	\$163,189	\$96	5.353
97088473207	0.497	470	4	8	\$0.555	\$464	\$163,189	\$81	5.718

CO: 99

RdID:	SgmtLen:	AADT:	XstLOS:	TgtLOS:	VMtsavings:	20YrCstSavin	UpgradeCost:	UpGrdAmt:	SCR:
99093261001	1.000	400	4	8	\$0.555	\$794	\$163,189	\$163	4.867
99093233106	0.839	540	4	8	\$0.555	\$900	\$163,189	\$137	6.570